

# Federal and Texas Jurisdiction Over Hydrogen Pipeline Transportation:

A Comprehensive Analysis and Pathways for Enhancement

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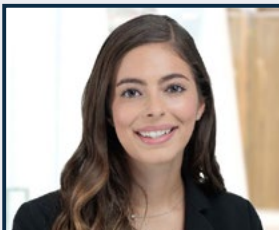
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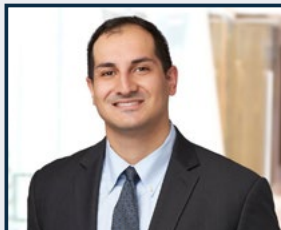
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# Executive Summary

**With massive greenhouse gas emission reduction goals looming, the race to develop large scale hydrogen operations is on. And with the Department of Energy's ("DOE") recent selection of the Gulf Coast Hydrogen Hub as a regional clean hydrogen hub, Texas finds itself in a position to play a substantial role in the scaling of hydrogen.**

In an evolving energy landscape, it is imperative for prospective stakeholders in Texas to stay informed about the progression of both federal and state-level regulatory frameworks governing the transportation of hydrogen via pipeline. Not only is awareness of these developments crucial, but discerning which jurisdictional regime—federal or state—might offer superior advantages is equally vital to optimizing strategic planning and decision-making.

This White Paper summarizes the existing federal and Texas state regulatory regimes governing the transportation of hydrogen by pipeline. The paper explores potential changes to these regimes, including possible paths to regulation under existing statutory authority and identifies potential hurdles from both governmental and private actor perspectives. The discussion is specific to the transportation of pure hydrogen by pipeline unless otherwise stated. Specifically, this White Paper is divided into four key areas of potential regulation: (1) transportation rates; (2) hydrogen pipeline siting; (3) environmental externalities; and (4) pipeline safety and security. Each section examines the current state of federal and Texas state regulation, explores the potential for further federal and state government action, and discusses the possible need for legislative action. These sections collectively suggest that the existing hydrogen regulatory framework is underdeveloped and may require further development, particularly if the energy industry continues to scale hydrogen operations.

The energy industry's foremost question is who has the authority to regulate rates for the transportation of hydrogen interstate by pipeline. The White Paper first delves into the federal regulation of rates, identifying three existing federal regulatory regimes as possibly applying to rates for hydrogen transported interstate by pipeline: (1) the Natural Gas Act ("NGA"); (2) The Interstate Commerce Act ("ICA"); and (3) the Interstate Commerce Commission Termination Act ("ICCTA"). Whether hydrogen pipeline regulation falls under the NGA, the ICA, or the ICCTA remains unclear. It is likewise unclear what effect the recent decision overturning the *Chevron* doctrine may have on the hydrogen regulatory scheme. This section walks through the various arguments surrounding the regulation of hydrogen pipelines under each of these statutes and then examines what regulation of hydrogen pipeline transportation rates would look like under each statute, as well as the potential need for congressional action. FERC's regulation of natural gas pipelines under

the NGA and of oil pipelines under the ICA, as well as the STB's regulation of pipelines under the ICCTA provides an instructive framework of how FERC or the STB could, but not necessarily will, regulate hydrogen pipelines. This section finally delves into the authority of the Texas Railroad Commission ("RRC") to regulate rates for intrastate hydrogen transportation, and possible avenues for the development of hydrogen specific regulations by the RRC and/or the Texas legislature. Because the regulatory regime for hydrogen has only begun to take shape, the center of interest has been the potential federal regime, but, for states like Texas that already have an established hydrogen market, state considerations are of equal import.

The White Paper then turns to the regulation of siting. The key question for determining whether hydrogen pipelines can seek federal siting approval and eminent domain authority is what statutory regime they fall under. This section discusses how the regulation of siting for a hydrogen pipeline may take shape under the three potential federal regimes previously identified (*i.e.*, the NGA, ICA, and ICCTA). This section then addresses how siting for a hydrogen pipeline may be handled at the state level in Texas. At current, the RRC has no statutory authority to regulate the construction or siting of intrastate pipelines.

The industry has been focused on the potential regulatory scheme for hydrogen rates and siting, but it is also crucial that hydrogen pipeline developers and operators keep environmental regulations and requirements in mind. The White Paper highlights existing federal and Texas state environmental regulations that likely will require compliance from a hydrogen pipeline developer or operator. Environmental regulation is a collaborative effort across multiple agencies, and hydrogen pipeline developers and operators must align their practices in compliance with established regulations. The White Paper also highlights opportunities for the Department of Energy ("DOE"), Texas Commission on Environmental Quality ("TCEQ"), the RRC, Congress and the Texas legislature to take further action with respect to environmental regulations affecting the transportation of hydrogen by pipeline.

Although the future of hydrogen regulation is in many aspects uncertain, the regulation of hydrogen pipeline safety and security is not. The White Paper covers the authority of the Department of Transportation ("DOT") to regulate hydrogen pipeline safety through the Pipeline and Hazardous Materials Safety Administration ("PHMSA"), including PHMSA's delegation of its regulatory authority over intrastate hydrogen pipelines to the RRC. The White Paper also covers the authority of the Transportation Security Administration ("TSA") to regulate interstate and intrastate pipeline security. The section concludes with a discussion of opportunities for potential governmental and congressional action in the space of pipeline safety and security.



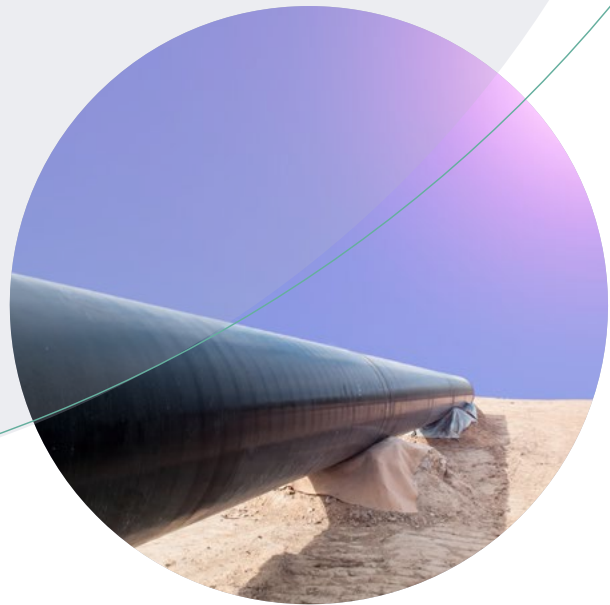
# I. Introduction

**The energy industry regards hydrogen as a potential solution for anticipated critical energy challenges. In late 2023, the DOE awarded funding, allocated through the Bipartisan Infrastructure Law, to seven regional clean hydrogen hubs, including the Gulf Coast Hydrogen Hub located in the Houston region. The DOE, in coordination with the Biden-Harris administration, hopes that the hydrogen hub grants will “accelerate the domestic market for low-cost, clean hydrogen.”<sup>1</sup> Despite the increasing interest in hydrogen, the hydrogen regulatory scheme is underdeveloped.**

This White Paper aims to identify gaps in the present legal framework governing the transportation of hydrogen via pipelines<sup>2</sup> and to identify potential areas for regulatory expansion. It provides a comprehensive analysis of the federal and Texas state laws applicable to hydrogen pipelines. Because Texas has the most hydrogen pipelines by far of any state, Texas-based stakeholders have strong incentive to play a key role in the developing regulatory landscape.<sup>3</sup> In addition to identifying existing laws and regulations, this White Paper identifies potential improvements at both federal and Texas state levels from governmental and private actor perspectives. This White Paper covers four potential areas of regulation:

1. Rates – *i.e.*, the terms of service for transportation by pipeline;
2. Siting – *i.e.*, the permitted location of the pipeline;
3. Environmental – *i.e.*, environmental externalities; and
4. Safety/Security – *i.e.*, dangerous circumstances.

Many of the potential areas of regulation are unclear. For example, energy industry members have heavily debated what federal statute hydrogen pipelines fall under for rate and siting purposes. This uncertainty not only affects the scope of regulatory requirements but also determines which federal agency would regulate these pipelines. Other areas, like the regulation of hydrogen pipeline safety are less uncertain. The DOT’s PHMSA has exercised the authority to regulate hydrogen pipeline safety, both for inter- and intra-state pipelines since 1970. Moreover, at the state level, Texas recently passed a bill clarifying the RRC’s authority to regulate rates for transportation of hydrogen by pipeline. Accordingly, the existing regulatory regimes, identified below in Table 1 and summarized in this document, offer varying degrees of insight into the future regulation of hydrogen pipelines.



1 Biden-Harris Admin. Announces Reg'l Clean Hydrogen Hubs to Drive Clean Mfg. & Jobs, White House (Oct. 13, 2023), <https://www.whitehouse.gov/briefing-room/statements-releases/2023/10/13/biden-harris-administration-announces-regional-clean-hydrogen-hubs-to-drive-clean-manufacturing-and-jobs/>.

2 All references to “hydrogen” and “hydrogen pipelines” are to pure hydrogen unless otherwise stated. This White Paper does not address pipelines carrying a blended mix of hydrogen and other products such as methane.

3 Lulia Gheorghiu, *Tex. hydrogen ‘proto-hub’ leads the US in tech. potential for DOE-funded regional hubs*: GTI, Utility Dive (Apr. 25, 2022), <https://www.utilitydive.com/news/texas-hydrogen-proto-hub-leads-the-us-in-technical-potential-for-doe-fund/622565/>.

**Table 1: Existing Regulatory Regimes**

| Element                                       | Rate Authority | Siting Oversight | Environmental Oversight | Safety                                    | Security |
|-----------------------------------------------|----------------|------------------|-------------------------|-------------------------------------------|----------|
| INTERSTATE                                    |                |                  |                         |                                           |          |
| Natural Gas                                   | FERC           | FERC             | Multi Agency Effort     | PHMSA                                     | TSA      |
| Oil                                           | FERC           | FERC             | Multi Agency Effort     | PHMSA                                     | TSA      |
| Commodities<br>"other than...<br>gas, or oil" | STB            | STB              | Multi Agency Effort     | PHMSA                                     | TSA      |
| INTRASTATE                                    |                |                  |                         |                                           |          |
| Hydrogen                                      | RRC            | None             | RRC and TCEQ            | PHMSA<br>Delegates<br>Authority<br>to RRC | TSA      |

As set forth below, the White Paper assesses the current state of the law and what the future might hold with respect to hydrogen pipelines for each of the four regulatory areas noted above from a federal and Texas state standpoint. Notably, the future of hydrogen regulation has become even more uncertain as a result of the US Supreme Court's recent decision overturning the longstanding *Chevron* doctrine.<sup>4</sup> The *Chevron* doctrine dictated that reviewing courts must sometimes defer to agency interpretation of their own statutes.<sup>5</sup> Now "[c]ourts must exercise their independent judgment in deciding whether an agency has acted within its statutory authority."<sup>6</sup> What impact this decision will have on the hydrogen regulatory scheme remains to be seen. But, the industry should expect there to be substantial litigation to determine what, if any, deference will be afforded to agencies' interpretation of their own statutes.<sup>7</sup>

<sup>4</sup> Courts have long applied the *Chevron* doctrine to resolve issues of statutory interpretation. Under the *Chevron* doctrine, a reviewing court would apply a two-step analysis to an agency's interpretation of a statutory provision. First, the reviewing court would determine whether a statute was ambiguous. If ambiguous, the reviewing court would next assess whether the agency's interpretation of the statute was reasonable. Courts deferred to the agency's interpretation of the statute if such interpretation was determined to be a "permissible construction of the statute." *Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837 (1984), overruled sub nom. by *Loper Bright Enters.*, 144 S. Ct. at 2257-73.

<sup>5</sup> See *Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837 (1984).

<sup>6</sup> *Loper Bright Enters.*, 144 S. Ct. at 2257-73.

<sup>7</sup> See e.g., Shaun Boedicker & Shannon W. Coffin, *Supreme Court Pulls Plug on Chevron, Creating Uncertainty for Energy Industry* (July 3, 2024), <https://www.step toe.com/en/news-publications/supreme-court-pulls-plug-on-chevron-creating-uncertainty-for-energy-industry.html>.

## II. Regulation of Rates

### A. It Is Unclear What Federal Regulatory Regime Applies to Hydrogen Pipeline Rates

The energy industry's foremost question is who has the authority to regulate rates for the transportation of hydrogen interstate by pipeline. The energy industry has identified three existing federal regulatory regimes as possibly applying to rates for hydrogen transported interstate by pipeline: (1) the Natural Gas Act ("NGA"); (2) The Interstate Commerce Act ("ICA"); and (3) the Interstate Commerce Commission Termination Act ("ICCTA"). The NGA and the ICA, administered by the Federal Energy Regulatory Commission ("FERC") concerns "the transportation of natural gas in interstate commerce,"<sup>8</sup> and "the transportation of oil by pipeline" respectively,<sup>9</sup> whereas the "jurisdiction over transportation by pipeline [of] . . . commodit[ies] *other than* water, gas, or oil"<sup>10</sup> lies with the Surface Transportation Board ("STB") under the ICCTA. Whether hydrogen pipelines are appropriately regulated by the federal government as a "natural gas" under the NGA, "oil" under the ICA, or "a commodity *other than* . . . gas, or oil" under the ICCTA without congressional action remains undecided.<sup>11</sup>

As detailed below, the energy industry has debated whether hydrogen falls within the definition of "natural gas," "oil," or "a commodity *other than* . . . gas, or oil." FERC has held that "when a highly technical question is involved, the broader legislative goals of the governing statute should be used to resolve any ambiguity."<sup>12</sup> FERC and/or the STB would likely consider: (1) whether hydrogen competes for the same pipeline capacity as products already regulated under the NGA, ICA, or ICCTA; and (2) whether hydrogen has a direct competitive impact on the sale and transportation costs of these commodities.<sup>13</sup>

However, FERC or the STB's interpretation that they have jurisdiction under existing statute to regulate the transportation of hydrogen by pipeline may not significantly influence the ultimate regulation of hydrogen pipelines. As noted above, in a recent landmark ruling,<sup>14</sup> the Supreme Court voted to overturn the longstanding *Chevron* doctrine.<sup>15</sup> Courts no longer will afford deference to an agency's interpretation of ambiguous statutory language. On the heels of this decision, asserting jurisdiction over the transportation of hydrogen by pipeline under existing statute may face an uphill battle. For example, if it is unclear under the relevant statute that FERC or STB has jurisdiction over hydrogen pipelines, it will now likely be easier for litigants to challenge the agency's statutory construction granting it jurisdiction. That being said, it is within Congress' authority to enact further legislation to remove ambiguity in current statutory language.



<sup>8</sup> 15 U.S.C. § 717(b).

<sup>9</sup> 49 U.S.C. § 60502.

<sup>10</sup> *Id.* § 15301(a) (emphasis added).

<sup>11</sup> Neither FERC nor the STB has sought to exercise authority over hydrogen pipelines or taken a position on the issue. See, e.g., William G. Bolgiano, *FERC's Auth. to Regulate Hydrogen Pipelines Under the ICA*, 43 Energy L.J. 1, 30 (2022) ("Bolgiano"); Michael Diamond, *Jurisdiction Over Hydrogen Pipelines & Pathways to an Effective Regul. Regime*, 3 EBA Brief (Nov. 10, 2022) ("Diamond").

<sup>12</sup> *Gulf Cent. Pipeline Co.*, 50 FERC ¶ 61,381, at 62,166 (1990), *aff'd*, *CF Indus., Inc. v. FERC*, 925 F. 2d 476 (D.C. Cir. 1991) (declining to exercise jurisdiction over anhydrous ammonia pipelines).

<sup>13</sup> See, e.g., *Id.*

<sup>14</sup> *Loper Bright Enters. v. Raimondo*, 144 S. Ct. 2244 (2024).

<sup>15</sup> *Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837 (1984), *overruled sub nom. by Loper Bright Enters.*, 144 S. Ct. at 2257-73.



## 1. NGA's Regulatory Scheme

Given that hydrogen is traditionally *produced*, or in other words, *manufactured*, rather than *extracted*, FERC may be disinclined to categorize hydrogen within the commonplace understanding of *natural* gas. The NGA defines “Natural gas” as “natural gas unmixed, or any mixture of natural and artificial gas.”<sup>16</sup> Accordingly, to regulate pure hydrogen under the NGA, FERC must define hydrogen as a “natural gas” and not an “artificial gas.”<sup>17</sup> FERC has generally found gas to be outside of its jurisdiction under the NGA where it was “artificially created by the agency of man, and beyond the contemplation of what Congress intended to regulate.”<sup>18</sup> On the other hand, “geologic” hydrogen does occur naturally and one day may be extracted.<sup>19</sup>

In determining whether a gas falls under the FERC’s NGA authority, the Commission has explained that “[r]ather than refining the term ‘natural gas’ to mean a certain chemical composition or mixture or as having a certain caloric content or vapor tension, [whether a gas falls under NGA regulation] should be determined primarily by reference to the goals and purposes of the NGA.”<sup>20</sup> FERC has observed, through review of legislative history, that Congress’s goal “was to protect the consumers of a salable commodity from exploitation at the hands of the natural gas companies” and that the NGA “was framed to afford consumers a bond of protection from excessive rates and charges.”<sup>21</sup> Due to hydrogen’s versatile nature and its low or non-existent greenhouse gas emissions at its point of use, industry leaders are considering whether hydrogen could be scaled to serve load typically served by natural gas.<sup>22</sup> Anticipating that the energy industry may replace a substantial amount of natural gas with hydrogen, advocates for regulation of hydrogen under the NGA argue that a failure to find that the NGA extends to hydrogen may undermine the NGA’s purpose to protect customers from these natural gas companies.<sup>23</sup>



16 15 U.S.C. § 717a (5).

17 If blended with natural gas, gas typically characterized as artificial gas is considered natural gas. An intrastate gas pipeline may be able to avail itself of FERC jurisdiction by mixing hydrogen with small amounts of natural gas.

18 *Natural Gas Pipeline Co. of America*, 53 F.P.C. 802, 804 (1975).

19 See *The Potential for Geologic Hydrogen For Next-Generation Energy*, USGS (Apr. 13, 2023), <https://www.usgs.gov/news/featured-story/potential-geologic-hydrogen-next-generation-energy>

20 *Cortez Pipeline Co.*, 7 FERC P 61,024, at 61,041-42 (1979) (first citing *FPC v. La. Power & Light Co.*, 406 U.S. 621, 631 (1972); and then citing *Henry v. FPC*, 513 F. 2d 395, 399-402 (D.C. Cir. 1975)).

21 *Id.* at 61,042 (first citing *FPC*, 406 U.S. at 63; then citing *Sunray Mid-Continent Oil Co. v. FPC*, 364 U.S. 137, 147 (1960); then citing *Phillips Petrol. Co. v. Wis.*, 347 U.S. 672 (1954); and then citing *FPC v. Hope Nat. Gas Co.*, 320 U.S. 591, 610 (1944)).

22 See, e.g., Zach Winn, MIT researchers outline a path for scaling clean hydrogen prod., MIT (Jan. 8, 2024), <https://news.mit.edu/2024/mit-researchers-scaling-clean-hydrogen-production-0108>; Climate Solutions: Hydrogen, ExxonMobil, [https://corporate.exxonmobil.com/what-we-do/delivering-industrial-solutions/hydrogen?camp=PaidSearch\\_DR\\_1ECX\\_BING\\_TRAF\\_OT\\_Brand\\_Hydrogen&gclid=f033569cb27812a167313008c225a6a7&gclidsrc=3p.ds&msclkid=f033569cb27812a167313008c225a6a7&utm\\_source=bing&utm\\_medium=cpc&utm\\_campaign=1ECX\\_BING\\_TRAF\\_OT\\_Brand\\_Hydrogen&utm\\_term=exxonmobil%20hydrogen&utm\\_content=OT\\_Brand\\_Hydrogen](https://corporate.exxonmobil.com/what-we-do/delivering-industrial-solutions/hydrogen?camp=PaidSearch_DR_1ECX_BING_TRAF_OT_Brand_Hydrogen&gclid=f033569cb27812a167313008c225a6a7&gclidsrc=3p.ds&msclkid=f033569cb27812a167313008c225a6a7&utm_source=bing&utm_medium=cpc&utm_campaign=1ECX_BING_TRAF_OT_Brand_Hydrogen&utm_term=exxonmobil%20hydrogen&utm_content=OT_Brand_Hydrogen) (last visited June 7, 2024); Alternative fuels explainer: harnessing the power of hydrogen, Chevron (Sept. 7, 2023), [https://www.chevron.com/newsroom/2023/q3/explainer-harnessing-the-power-of-hydrogen?gclid=e8714727cf7a1b9e60352144d1739191&gclidsrc=3p.ds&msclkid=e8714727cf7a1b9e60352144d1739191&utm\\_source=bing&utm\\_medium=cpc&utm\\_campaign=BNG\\_Chevron\\_National\\_Nonbrand\\_Explainers\\_Articles\\_Multiple&utm\\_term=Hydrogen%20Power&utm\\_content=Chevron\\_NonBrand\\_Explainers\\_Articles\\_Hydrogen\\_Phrase\\_3509467](https://www.chevron.com/newsroom/2023/q3/explainer-harnessing-the-power-of-hydrogen?gclid=e8714727cf7a1b9e60352144d1739191&gclidsrc=3p.ds&msclkid=e8714727cf7a1b9e60352144d1739191&utm_source=bing&utm_medium=cpc&utm_campaign=BNG_Chevron_National_Nonbrand_Explainers_Articles_Multiple&utm_term=Hydrogen%20Power&utm_content=Chevron_NonBrand_Explainers_Articles_Hydrogen_Phrase_3509467).

23 See, e.g., Diamond, *supra* note 7, at 6. Some commenters however suggest that expansion of the NGA’s definition of “natural gas” would be anticompetitive, disadvantaging new entrants and giving incumbents “an outsized voice” that could impact approval of new hydrogen projects. They explain that under the NGA new entrants must seek FERC approval, whereas, in contrast, existing pipelines that transition to hydrogen transportation may not need to seek additional FERC approval. See e.g., Richard E. Powers, Jr., *The Hydrogen Pipeline Debate Requires Candid & Serious Consideration of Existing Regul. Regimes*, (Apr. 18, 2023), <https://www.eba-net.org/the-hydrogen-pipeline-debate-requires-candid-and-serious-consideration-of-existing-regulatory-regimes/>.



## 2. ICA's Regulatory Scheme

Whether hydrogen meets the ICA's definition of "oil" has also been heavily debated. Under the ICA, FERC regulates pipeline rates for "oil" (including petroleum products and natural gas liquids) transported from one state to another state or foreign country.<sup>24</sup> In defining its reach under the ICA, FERC has looked to Congress for direction. The DOE Act of 1977 ("DOE Act") Conference Reports for both the House and the Senate define the transportation of oil by pipeline as "[including] pipeline transportation of crude and refined petroleum and petroleum by-products, derivatives or petrochemicals."<sup>25</sup> As a matter of common usage within the petrochemical industry, a petrochemical is that which is derived either from petroleum gas or natural gas.<sup>26</sup> Because conventional hydrogen has the ability to be derived from petroleum gas or natural gas (*i.e.*, a petrochemical with energy potential), some commenters assert that it follows that hydrogen is appropriately regulated under the ICA.<sup>27</sup> But, in FERC's analysis of anhydrous ammonia,<sup>28</sup> FERC found the chemical definition of "petrochemical" somewhat ambiguous. FERC explained that one may more narrowly construe and limit anhydrous ammonia to organic compounds and petroleum products that actually contain hydrocarbons.<sup>29</sup> Like anhydrous ammonia, hydrogen does not contain hydrocarbons. On appeal, the D.C. Circuit held that one reference to "petrochemicals" in the legislative history of the DOE Act was inadequate to establish a statutory obligation that FERC regulate anhydrous ammonia.<sup>30</sup> As such, it seems unlikely that FERC will assert jurisdiction over hydrogen under the ICA solely because hydrogen can be derived from petrochemicals.<sup>31</sup>

Because of the ambiguity in the term "petrochemical," FERC determined in *Gulf Central Pipeline Co.*,<sup>32</sup> "that the Commission's jurisdiction [under the ICA] is more appropriately determined by examining the overall purposes of the DOE Act and acting in a manner that facilitates the purposes of that Act."<sup>33</sup> FERC explained that "[t]he legislative history establishes that the purpose of the [ICA] was to provide more coordinated and systematic regulation of energy resources."<sup>34</sup> FERC noted that the agency best able to evaluate the impact on energy costs of a specific commodity's relative transportation price should retain regulatory control.<sup>35</sup>

Notably, in a pre-*Loper* D.C. Circuit review of FERC's findings in *Gulf Central Pipeline Co.*, it did not afford *Chevron* deference to FERC:

[Although it is unclear how the majority of appeals courts would interpret the DOE Act] whether we give *Chevron* deference to an agency's determination of its own jurisdiction is undecided in this circuit. And, we have declined to afford *Chevron* deference to an agency's interpretation of a statute which more than one agency is charged with interpreting. Because of these considerations, we will analyze the case as if deference were inappropriate.<sup>36</sup>

24 49 U.S.C. § 1.

25 *Gulf Cent. Pipeline, Petition for Declaratory Order*, 7 I.C.C. 2d 52, 56 & n. 15 (1990) (first citing S. Rep. No. 367, 95th Cong., 1st Sess. at 69 (1977); and then citing R. Rep. No. 539, 95th Cong., 1st Sess. at 69 (1977)), *aff'd sub nom. CF Indus., Inc. v. ICC*, 946 F. 2d 1563 (D.C. Cir. 1991).

26 *CF Indus., Inc.*, 925 F. 2d at 479.

27 *Bolgiano*, *supra* note 7, at 67-71.

28 "Anhydrous ammonia is an agricultural fertilizer derived from natural gas or petroleum refinery gas and transported by pipeline (among other means)." See *CF Indus., Inc.*, 925 F. 2d at 477.

29 See *Id.* at 479.

30 *CF Indus., Inc.*, 925 F. 2d at 480 ("The reference in the conference reports hence is insufficient to offset the lack of any comparable indication in either the statutory language or other legislative history revealing the purpose of the Act." (citing *Garcia v. United States*, 469 U.S. 70, 75 (1984))).

31 Some commentators heavily criticize the argument that hydrogen may be regarded as "oil" as it is generally understood that oil refers to liquids (which hydrogen is not). See *Diamond*, note 7, at 8, n. 72. But see *Powers, Jr., et al.*, *supra* note 18, at n. xvi, (asserting "there is no legal support for the idea that ICA . . . does not cover gases"). Compare *Bolgiano*, *Hydrogen Pipelines*, *supra* note 5, at 42-50 with *Diamond*, *Hydrogen Pathways*, *supra* note 2, at 7-8 (repeating Mr. *Bolgiano's* analysis of the cases but inserting the word "liquid" throughout without citing authority for it)).

32 50 FERC at 62,164.

33 *Id.* at 62,165. Although FERC considered whether anhydrous ammonia was a petrochemical, FERC does not always consider chemical makeup in analyzing its ICA authority. For example, FERC made no mention of the chemical makeup of ethanol in its analysis of its authority under the ICA. In fact, ethanol is neither a crude or refined petroleum, a petroleum by-product, a derivative or a petrochemical. See e.g., *Alternative Fuels Data Center*, DOE, <https://afdc.energy.gov/fuels/ethanol-benefits>, (last visited July 21, 2024).

34 50 FERC at 62,165. "Section 306 of the DOE Act transferred oil pipeline regulation from the ICC to FERC in 1977." *Id.*

35 *Id.* at 61,166.

36 *CF Indus., Inc.*, 925 F.2d at 478 (first citing *Otis Elevator Co. v. Sec'y of Labor*, 921 F.2d 1285, 1290 (D.C. Cir.1990); then citing *Reps. Comm. For Freedom of the Press v. DOJ*, 816 F.2d 730, 734 (D.C. Cir.1987), *rev'd on other grounds*, 489 U.S. 749 (1989)).



Thus, the D.C. Circuit's analysis suggests how it, and potentially other appellate courts, might approach the question of agency jurisdiction over the transportation of hydrogen by pipeline in the face of the recent overturn of *Chevron* deference.<sup>37</sup> For example, in examining whether FERC or the STB had jurisdiction over the transportation of anhydrous ammonia by pipeline, the D.C. Circuit explained that the DOE Act "established a separate agency 'to bring together . . . all of the major *energy* programs in the Federal Government."<sup>38</sup> The D.C. Circuit further observed that the DOE Act made FERC responsible for overseeing federal efforts in several areas including the "regulation of energy prices."<sup>39</sup> Because FERC's authority to regulate hydrogen would stem from the DOE Act, the D.C. Circuit would likely consider whether hydrogen is an energy producing commodity and its potential effects on the regulation of certain energy prices, similar to its review of jurisdiction over anhydrous ammonia.<sup>40</sup>

### 3. ICCTA's Regulatory Scheme

Proponents of STB regulation of hydrogen pipeline rates contend that hydrogen must fall under the jurisdiction of the STB because it does not fall under the definition of "natural gas" under the NGA or "oil" under the ICA. This is because the ICCTA catch-all provision vests the STB with jurisdiction over any "commodity *other than* . . . gas, or oil."<sup>41</sup> However, courts have understood the STB as having jurisdiction over "non-energy" pipelines,<sup>42</sup> and inclusion of hydrogen pipelines may flout this understanding. Notably, hydrogen has several uses other than as an energy carrier; for example, hydrogen may be transported as feedstock, which may complicate a court analysis.<sup>43</sup> That said, the STB does have jurisdiction over transportation of coal slurry—an energy commodity,<sup>44</sup> and has not yet opined on its jurisdiction over carbon dioxide pipelines.<sup>45</sup> Thus far, cases concerning whether the STB has authority to regulate certain commodities have focused on legislative history and whether there are any practical reasons for the STB to exercise jurisdiction such as its potential to effect prices for commodities already actively regulated by the STB.<sup>46</sup> Whether this focus will shift in light of the overturn of *Chevron* deference remains uncertain.

In short, whether hydrogen pipeline regulation falls under the NGA, the ICA, or the ICCTA remains unclear. It is likewise still unclear what effect the recent decision overturning the *Chevron* doctrine may have on the hydrogen regulatory scheme.

37 *Loper Bright Enters.*, 144 S. Ct. at 2257-73.

38 *CF Indus. Inc.*, 925 F.2d at 479 (citation omitted).

39 *Id.* (citations omitted).

40 *See Id.*

41 49 U.S.C. § 1530(a).

42 *Diamond*, *supra* note 7, at 9-10. *See also Id.* at n.99 (explaining that "FERC has stated that the STB has jurisdiction over ethylene and propylene which are used in manufacturing but not as energy sources. *See Texaco Petrochemical Pipeline LLC*, 107 F.E.R.C. ¶ 61,151 (2004); *Enterprise Lou-Tex. Propylene Pipeline L.P.*, 111 F.E.R.C. ¶ 61,068 (2005)).

43 *See Kerry Taylor-Smith, The Use of Clean Hydrogen as a Industrial Feedstock*, (Nov. 26, 2021), <https://www.azocleantech.com/>.

44 *Gulf Cent. Pipeline Co. -Petition for Declaratory Order*, 7 I.C.C. 2d at 58 (citation omitted); *Gulf Cent. Pipeline Co.*, 50 FERC ¶ at 62,165-66.

45 Richard E. Powers et al., *Hydrogen Prod. & Carbon Sequestration May Require the Surface Transp. Bd. to Clarify Jurisdiction over Carbon Dioxide Pipelines*, Venable LLP (Nov. 18, 2022), <https://www.venable.com/insights/publications/2022/11/hydrogen-production-and-carbon-sequestration>. *See also* Robert R. Nordhaus & Emily Pitlick, *Carbon Dioxide Pipeline Regul.*, 30 ENERGY L.J. 85, 88 (2009) (explaining how "STB has not opined on its jurisdiction over CO2 pipelines" but its predecessor agency, the Interstate Commerce Commission "disclaimed jurisdiction because CO2 is a 'gas' and therefore exempt under Title 49, United States Code").

46 *See e.g., Gulf Cent. Pipeline, Petition for Declaratory Order*, 7 I.C.C. 2d at 58 & n. 20 (citing S. Rep. No. 164, 95th Cong., 1st Sess. 16 and 18).

## B. Federal Regulation of Hydrogen Pipelines Under Existing Statutes

### 1. FERC's Authority

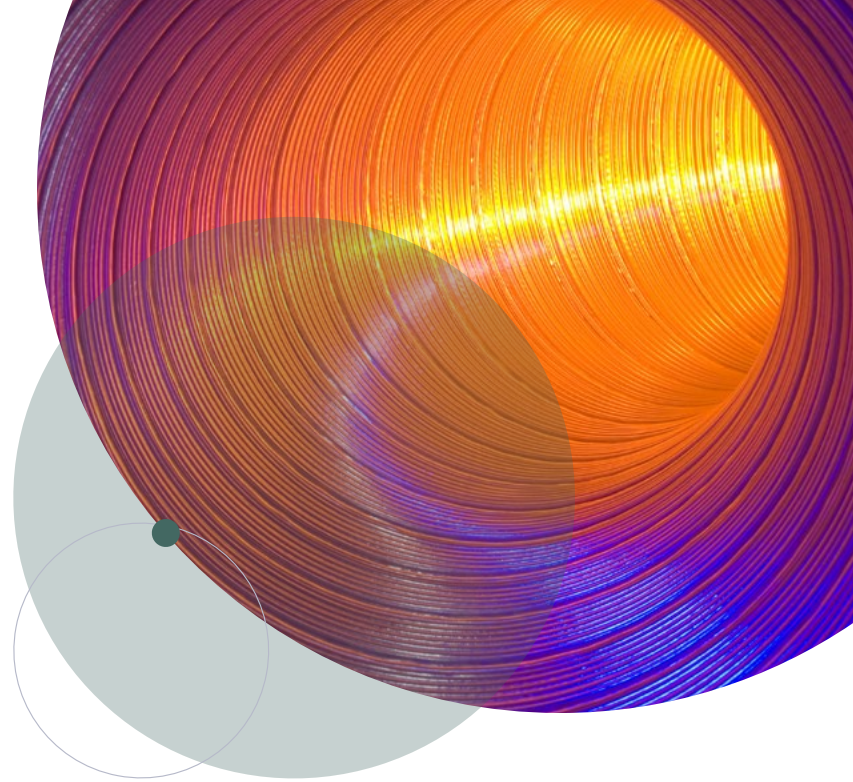
As detailed above, it has yet to be determined whether FERC's existing jurisdictional authority encompasses regulating the transportation of hydrogen by interstate pipeline. However, to the extent that FERC possesses such authority, either the NGA or the ICA are likely the enabling act.

#### a) Regulation of Hydrogen by FERC Pursuant to FERC's NGA Authority

FERC's regulation of natural gas pipelines under the NGA provides an instructive framework of how FERC could, but not necessarily will, regulate hydrogen pipelines.

FERC, pursuant to the NGA, must ensure that rates charged for interstate natural gas pipeline service are "just and reasonable."<sup>47</sup> Consistent with this responsibility, the NGA requires that all gas pipelines file with FERC a tariff of rates and services.<sup>48</sup> Additionally, gas pipelines are required to provide interstate transportation on an open access basis, without engaging in "undue prejudices or disadvantages" or unduly discriminating among different classes of customers.<sup>49</sup> Failure to comply with the NGA carries potentially onerous penalties.<sup>50</sup>

As recognized by FERC, "[s]etting just and reasonable rates requires a balancing of equities between the interests of the pipeline and its ratepayers."<sup>51</sup> Historically, rates for natural gas pipelines are set based on cost-of-service.<sup>52</sup> "Under cost-of-service ratemaking, rates are designed based on a pipeline's cost of providing service including an opportunity for the pipeline to earn a reasonable return on its investment."<sup>53</sup> FERC has characterized cost-of-service ratemaking as having five steps including: "(1) [e]stablishing a revenue requirement or cost-of-service; (2) [f]unctionalizing the cost-of-service; (3) [c]ost [c]lassification; (4) [c]ost [a]llocation, and (5) [r]ate [d]esign."<sup>54</sup> Through cost-of-service ratemaking, FERC can set pipeline rates without any explicit reference to markets.<sup>55</sup> Alternatively, a gas pipeline may use market-based rates if it can demonstrate a lack of market power.<sup>56</sup> FERC will authorize a gas pipeline to charge rates based on market conditions if it finds that the applicant



lacks significant market power, *i.e.*, that the market is sufficiently competitive to preclude the pipeline from profitably maintaining prices above competitive levels for a prolonged period of time.<sup>57</sup>

A gas pipeline may amend its rates or terms of service, but only after making a filing with FERC, under NGA Section 4, demonstrating that such changes are "just and reasonable."<sup>58</sup> A gas pipeline's rates or terms of service may also be amended through an NGA Section 5 proceeding. Section 5 of the NGA protects consumers from excessive rates and charges in gas purchase contracts.<sup>59</sup> If a third-party believes that a gas pipeline's existing rates, classifications, rules, regulations, practices, or contracts relating to jurisdictional transactions are unjust, unreasonable, unduly discriminatory, or preferential, it may file a complaint under Section 5 of the NGA. FERC may also, on its own motion, initiate a proceeding to investigate a gas pipeline's rates and terms of service under Section 5 of the NGA.<sup>60</sup>

47 *Id.* § 717c(a).

48 *Id.* § 717c(c).

49 *Id.* § 717c(b).

50 *Civil Monetary Penalty Inflation Adjustments*, 186 FERC ¶ 61,017 (2024).

51 *Cost-of-Service Rate Filings*, FERC, <https://www.ferc.gov/industries-data/natural-gas/overview/general-information/cost-service-rate-filings#:~:text=The%20Natural%20Gas%20Act%20%28NGA%29%20requires%20that%20rates,establish%20just%20and%20reasonable%20rates%20i-s%20cost-of-serve%20ratemaking> (last visited July 14, 2024).

52 *Id.*

53 *Id.*

54 *Cost-of-Service Rates Manual*, FERC at 4 (June 1999), <https://www.ferc.gov/sites/default/files/2020-08/cost-of-service-manual.pdf>.

55 Robert J. Michaels & Arthur S. De Vany, *Mkt.-Based Rates for Interstate Gas Pipelines: The Relevant Mkt. & the Real Mkt.*, 16 *Energy L.J.* 299, 299 (1995), [https://www.eba-net.org/wp-content/uploads/2023/02/3-Vol16\\_No2\\_1995\\_Market-Based.pdf](https://www.eba-net.org/wp-content/uploads/2023/02/3-Vol16_No2_1995_Market-Based.pdf).

56 15 U.S.C. § 717c(f).

57 *Id.*

58 *Id.* § 717c.

59 *See Re Dstrigas Corp.*, Opinion No. 613, 47 F.P.C. 752 (1972).

60 15 U.S.C. § 717d(a).



## b) Regulation of Hydrogen by FERC Pursuant to FERC's ICA Authority

Similarly, FERC's regulation of oil pipelines under the ICA provides some clarity on how the agency may potentially regulate hydrogen pipelines under that statute.

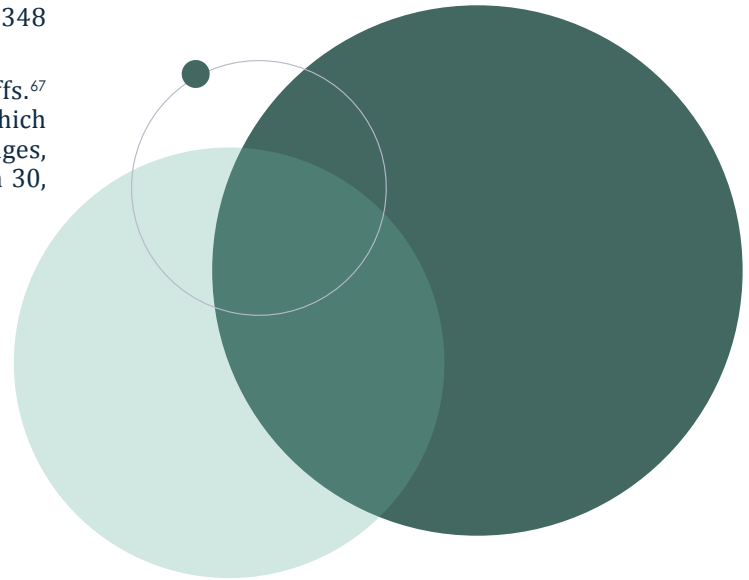
As with natural gas pipelines, FERC must ensure that the rates charged for interstate oil pipeline services are "just and reasonable" and non-discriminatory.<sup>61</sup> Similarly, oil pipelines must maintain a publicly-filed tariff with FERC.<sup>62</sup> Unlike natural gas pipelines, oil pipelines are classified as "common carriers," meaning they must provide transportation to shippers upon reasonable request.<sup>63</sup> To fulfill this duty, oil pipelines reserve some portion of their capacity for "walk up" shippers, *i.e.*, shippers that do not have long-term contracts with the pipeline.

Also unlike gas pipelines, interstate oil and liquid pipelines generally make changes to their rates based on an index system that establishes ceiling levels.<sup>64</sup> Thus, oil pipelines have more flexibility in setting their rates than gas pipelines.<sup>65</sup> FERC reviews the index level every five years to ensure it accurately reflects industry cost changes.<sup>66</sup> Similar to gas pipelines, oil pipelines may instead apply for market-based rates by satisfying the requirements set forth in 18 Code of Federal Regulation Section 348 through demonstrating a lack of market power.

Section 6 of the ICA governs the filing of tariffs.<sup>67</sup> In general, a carrier must file a tariff publication (which includes all parts of a filed tariff, including revised pages, supplements, and sections) with FERC "not less than 30,

nor more than 60, days prior to their proposed effective date," unless FERC authorizes a different notice period.<sup>68</sup> The ICA requires FERC to act on a tariff publication within 30 days of its filing. FERC "may reject [a] tariff publication[] or any other material submitted for filing that fail[s] to comply with the requirements set forth in . . . any [applicable] statute, regulation, policy, or order."<sup>69</sup> If FERC fails to formally act within 30 days, the filing will be deemed accepted and go into effect,<sup>70</sup> unless one or more interested parties, such as shippers that intend to use the transportation service, protest the filing. If a party files such a protest, FERC has the authority to suspend the effective date of the tariff for up to seven months, although it rarely chooses to exercise this authority.<sup>71</sup>

Similar to its authority under the NGA, FERC has the authority, subject to sections 13 and 15 of the ICA, to investigate the lawfulness of an oil pipeline's rates and practices.<sup>72</sup> Specifically, under section 15(7) of the ICA, FERC has the authority, upon complaint or upon its own motion, to suspend a filing for up to seven months and set a hearing concerning its lawfulness.<sup>73</sup>



61 *Id.* § 717c(a).

62 49 U.S.C. App. §§ 1(5), 3(1), 6(1), & 7(7) (1988).

63 *Id.* § 1(4).

64 18 C.F.R. § 342.3 (2023).

65 See e.g., RBN Energy LLC, *Different Strokes for Different Folks, Part 3 - How the FERC Sets Oil and Gas Pipeline Rates*, <https://rbnenergy.com/Different-strokes-for-different-folks-part-3-how-the-ferc-sets-oil-and-gas-pipeline-rates> (last visited July 25, 2024).

66 A recent DC Circuit ruling rejected the index adjuster established in January 2022. *Liquid Energy Pipeline Association v. Federal Energy Regulatory Commission*, 109 F. 4th 543, 549 (D.C. Cir. 2024). FERC reinstated the Index adjuster to PPI-FG + .78%. *Revisions to Oil Pipeline Regulations Pursuant to the Energy Policy Act of 1992 Five-Year Review of the Oil Pipeline Index*, 188 FERC ¶ 61,173 at P 1 (2024).

67 49 App. U.S.C. § 6(1).

68 18 C.F.R. § 341.2(b).

69 *Id.* § 341.11(a).

70 *Id.* § 343.3(c).

71 Testimony of Richard E. Powers, Jr. S. Comm. on Energy & Nat. Res. At 8 (July 19, 2022).

72 49 App. U.S.C. §§ 13 and 15.

73 *Id.* § 15(7).



### c) Potential Paths to FERC Regulation of Hydrogen

Industry members that desire a hydrogen regulatory scheme akin to that of natural gas or oil pipelines could try to force FERC's hand in asserting or declining jurisdiction over hydrogen pipelines by requesting that FERC issue a declaratory order.<sup>74</sup> As with other formal FERC actions, "a declaratory order represents a binding statement of policy that provides direction to the public and . . . staff regarding the statutes [FERC] administers and the implementation and enforcement of our orders, rules and regulations."<sup>75</sup> Petitions for declaratory order are subject to the "public comment process, ensuring that interested persons have the opportunity to provide input regarding the subject matter of the petition."<sup>76</sup> Due to the "public and formal nature of the declaratory order process, there is an unavoidable delay between the receipt of a petition and issuance of an order."<sup>77</sup> There is "no statutory timeframe [for FERC] to respond to a request for a declaratory order" and the time it takes may depend on the complexity of the issue raised.<sup>78</sup> "To the extent that a petitioner or party needs action by a certain date, any request for such action should be explained in the petition."<sup>79</sup>

Alternatively, a hydrogen pipeline developer or operator could try filing a tariff with FERC and/or engaging with FERC Staff in a pre-filing meeting. However, if a hydrogen pipeline were to file a tariff under the ICA, FERC's involvement would likely be limited. When a tariff is filed pursuant to the ICA, FERC generally would either accept the tariff for filing or reject the tariff filing outright. This is because, under the ICA, before providing service a pipeline only needs to file a tariff with FERC setting forth its initial rates and terms of service.<sup>80</sup> FERC does not have the jurisdiction under the ICA to approve or cancel a pipeline project. Its role is limited to reviewing the tariff rates and terms and conditions of service for compliance with the ICA's requirement that they be just and reasonable and nondiscriminatory.

Overall, proceeding under the ICA may offer a more "hands-off" approach in regard to hydrogen pipeline development. However, it is important to remember that the ICA does not confer eminent domain authority on FERC and that local and state authorities dictate the siting and construction of ICA-regulated pipelines.



Finally, a hydrogen pipeline developer/operator could, pursuant to NGA section 7(c), seek a Certificate of Public Convenience and Necessity ("CPCN") to construct a new pipeline or to expand an existing facility. FERC evaluates each CPCN application on a case-by-case basis. In determining whether a CPCN should be awarded, FERC will balance demonstrated market demand for the project against potential adverse environmental impacts and private property rights.<sup>81</sup>

The numerous compliance obligations on hydrogen pipeline developers and operators likely to be associated with FERC regulation of hydrogen pipelines may not be appealing. Conversely, inviting federal government participation in the regulation of hydrogen pipelines could lead to a more consistent, transparent, and predictable progression in the development of hydrogen pipeline regulation.

<sup>74</sup> 18 C.F.R. § 385.207(a)(2).

<sup>75</sup> *Interpreting Order Modifying No-Action Letter Process & Reviewing Other Mechanisms for Obtaining Guidance*, 123 FERC ¶ 61,157, at P 19 (2008).

<sup>76</sup> *Id.* P 20.

<sup>77</sup> *Id.*

<sup>78</sup> *Id.*

<sup>79</sup> *Id.*

<sup>80</sup> 18 C.F.R. § 342.2(b).

<sup>81</sup> Cynthia L. Taub, *Understanding FERC's Nat. Gas Certificate Policy Review* (Feb. 6, 2018), <https://www.steptoelaw.com/en/news-publications/understanding-fercs-natural-gas-certificate-policy-review.html>



## 2. Regulation of Hydrogen by the STB Pursuant to the STB's ICCTA Authority

Industry members may also look to the STB's regulation of pipelines under the ICCTA to infer how the STB may, but not necessarily will, regulate hydrogen pipelines. Although energy industry members often think of FERC as the pipeline regulator, the STB has regulated pipeline commodities "other than water, gas, or oil" since 1997.<sup>82</sup> Hydrogen is a gaseous commodity, but that does not necessarily exclude the STB as potential regulator of hydrogen. While the ICCTA does not define "gas," the Hepburn Act (a 1906 federal law that expanded the jurisdiction of the ICC) specifically identified "natural and artificial gas" as outside the jurisdiction of the ICC.<sup>83</sup> The STB has long held that its jurisdiction extends to gaseous materials that are not natural and artificial gas.<sup>84</sup> In fact, the Government Accountability Office ("GOA") conducted a study of STB's jurisdiction under the ICCTA and identified hydrogen pipelines as subject to the STB's jurisdiction.<sup>85</sup> Both the DOT and the Congressional Research Service ("CRS") have reached the same conclusion.<sup>86</sup> Despite the support from the GOA, DOT, and CRS, the STB has not attempted to assert jurisdiction over hydrogen pipelines.

Because the ICCTA informs both the regulation of the transportation of "other commodities" by the STB and the regulation of oil pipelines by FERC, their regulation has many similarities. For example, both STB regulated pipelines and FERC oil pipelines are required to maintain tariffs that provide for "reasonable" rates and terms of service.<sup>87</sup> Moreover, the ICCTA requires both STB-regulated pipelines and FERC oil pipelines to provide "common carriage" and non-discriminatory service.<sup>88</sup> But, while the STB requires that pipelines under its jurisdiction maintain tariffs, it does not require pipeline companies to file tariffs. Instead, the STB simply requires that pipelines abide by their tariffs and provide them to any person upon reasonable request.<sup>89</sup> The STB only intervenes when requested to resolve disputes related to pipelines within its jurisdiction. In fact, the STB only has authority to initiate rate investigations upon a complaint from a customer.<sup>90</sup>

Practically speaking, the STB is smaller than FERC, lacks institutional resources, and does not have as much experience in pipeline ratemaking. But, if industry members wish to see the STB regulate hydrogen pipelines, they could try to force the STB's hand with respect to its authority to regulate hydrogen pipelines by seeking a declaratory order from the STB. However, the STB characteristically takes a more hands-off approach than FERC and has generally been reluctant to issue declaratory orders.

82 49 U.S.C. § 1530(a).

83 United States Hepburn Act, 59th Cong., Sess. 1, ch. 3591, 34 Stat. 584 (enacted June 29, 1906).

84 *CF Indus., Inc. v. Koch Pipeline Co., L.P.*, Docket No. 41685, slip op. at 4 n. 11 (S. T. B. May 3, 2000), *aff'd sub nom. CF Indus., Inc. v. STB*, 255 F.3d 816 (D.C. Cir. 2001). The STB's position is supported by the legislative history of the ICCTA which indicates that Congress was interested in continuing to regulate specific gaseous commodities carried by pipeline. *Id.* (citing H.R. Rep. No. 104-122, at 250, 104th Cong., 1st Sess. 230 (1995) (specifically referring to anhydrous ammonia in connection with transferring the ICC's pipeline jurisdiction to the STB)).

85 U.S. Gov't Accountability Off., GAO-98-99, Issues Associated With Pipeline Regulation By The Surface Transportation Board, Appendix I (1998).

86 *Statement Regarding a Coordinated Framework for Regulation of a Hydrogen Economy*, RITA-2006-26758, 72 Fed. Reg. 609, 618 (Jan. 5, 2007) ("The statement recognizes that the Surface Transportation Board (STB), the Federal economic regulator of railroads, also regulates economic aspects of interstate hydrogen pipelines"); Congressional Research Service, *R46700 Pipeline Transportation Of Hydrogen: Regulation, Research, And Policy* at 10 (Mar. 2, 2021) ("Jurisdiction over rates for interstate hydrogen pipelines resides with the Surface Transportation Board (STB).").

87 49 U.S.C. §§ 15501(a), 15502.

88 49 U.S.C. § 15701(a).

89 49 U.S.C. § 15701(b).

90 *Id.* § 15901(a). Parties who wish to challenge whether a rate or another aspect of a pipeline's common carrier service is "just and reasonable" may petition the STB for a hearing, but "the STB may not on its own initiative investigate and alter rates charged by a hydrogen pipeline." *Statement Regarding a Coordinated Framework for Regul. of a Hydrogen Econ.*, 72 Fed. Reg. 609-01, 618 (Jan. 5, 2007).

### 3. Potential Legislative Path to STB Regulation of Hydrogen

Of course, it is within the purview of Congress to definitively assign (or deny) regulatory authority over hydrogen pipeline rates to FERC, the STB, or another agency if it desires. In the wake of the Supreme Court's overturn of the *Chevron* doctrine, coupled with the uncertainty surrounding who has the jurisdiction to regulate rates for the interstate transportation of hydrogen by pipeline, industry members may feel that a congressional cure, like that proposed by Senator Manchin in 2022 is necessary.<sup>91</sup> If the energy industry seeks to bring an end to the debate over who has jurisdiction to regulate interstate hydrogen pipelines, it may find value in encouraging congressional action.

## C. Texas Regulation of Hydrogen Pipelines

### 1. The Texas RRC Possesses the Authority to Regulate Rates for Intrastate Transportation of Hydrogen by Pipeline

Because the regulatory regime for hydrogen has only begun to take shape, the center of interest has been the potential federal regime, but, for states like Texas that already have an established hydrogen market,<sup>92</sup> state considerations are of equal import. The RRC has regulatory authority over intrastate hydrogen pipelines pursuant to Chapter 111 of the Natural Resources Code.<sup>93</sup> House Bill 2847, passed by the 88th Legislature, clarifies the RRC's regulatory jurisdiction over intrastate hydrogen pipelines. But, beyond clarifying that the RRC has regulatory authority over intrastate hydrogen pipelines pursuant to Chapter 111 of the Natural Resources Code, the RRC has not yet used its authority to issue any hydrogen-specific rules.

The RRC does, however, have common-carrier rules that are generally applicable to hydrogen pipelines. The Texas Natural Resource Code defines a common-carrier as a person who "owns, operates, or manages, wholly or partially, pipelines for the transportation of carbon dioxide or hydrogen in whatever form to or for the public for hire."<sup>94</sup> Pipeline companies report to the RRC their status as common carriers, gas utilities, or private line(s).<sup>95</sup> Where a hydrogen pipeline believes it will satisfy the common carrier criteria, it must "file[ ] with the [RRC] a written acceptance of the [common-carrier provisions] expressly agreeing that, in consideration of the rights acquired, it becomes a common carrier subject to the duties and obligations conferred or imposed [on common carriers]."<sup>96</sup> Hydrogen pipelines that register as common carriers must comply with certain rules, including: (1) publishing a tariff with the RRC;<sup>97</sup> and (2) receiving and transporting pipeline products without discrimination.<sup>98</sup>

### 2. RRC Hydrogen Regulations May Be Forthcoming

Texas has instituted a framework for recommendations concerning the oversight of hydrogen that suggests additional regulations over hydrogen rates may be forthcoming. Specifically, House Bill 2847 created the Texas Hydrogen Production Council and tasked the Council with developing recommendations regarding the oversight and regulation of hydrogen by the RRC. House Bill 2847 also tasked the Council with making recommendations to the Texas legislature on legislative changes needed for the oversight and regulation of hydrogen production, transportation, and storage. The Texas Hydrogen Production Policy Council may recommend hydrogen-specific rules and has been reported to be actively working to develop recommendations to the Texas legislature for the upcoming 2025 legislative session.<sup>99</sup>

<sup>91</sup> Senator Manchin in 2022 proposed a bill to expressly add "hydrogen" to the definition of natural gas under the NGA. Energy Sec. & Independence Act of 2022, S. 4013, 117th Cong. (as introduced in Senate and referred to S.comm. on Energy & Nat. Res., Apr. 6, 2022), <https://www.congress.gov/bills/117/congress-senate-bill/4013/text>.

<sup>92</sup> See, e.g., Gov. Abbott Celebrates Constr. of Nation's Largest Green Hydrogen Facility In Tex., Off. of the Tex. Governor (Dec. 8, 2022), <https://gov.texas.gov/news/post/governor-abbott-celebrates-construction-of-nations-largest-green-hydrogen-facility-in-texas>.

<sup>93</sup> Tex. Nat. Res. Code Ann. ch. 111, <https://statutes.capitol.texas.gov/Docs/NR/htm/NR.111.htm>. In addition to regulating interstate pipelines, the RRC also has regulatory authority over Hinshaw Pipelines. Hinshaw pipelines are local distribution pipelines or companies served by interstate pipelines. Section 1(c) of the Natural Gas Act excludes Hinshaw pipelines from FERC jurisdiction. Specifically, the NGA exempts from jurisdiction a pipeline whose facilities are located entirely within one state, that receives all of its gas at or within the boundaries of that state, with all of its gas supplies consumed therein. Instead, regulatory authority falls to the relevant state commission, in Texas, the RRC. See FERC, NGA Hinshaw Pipelines, <https://www.ferc.gov/industries-data/natural-gas/nga-hinshaw-pipelines> (last visited July 25, 2024).

<sup>94</sup> Tex. Nat. Res. Code Ann. § 111.002(6). The RRC does not have the authority to determine who is or is not a common carrier. The standards for assessing whether a pipeline is a common carrier are articulated in *Texas Rice Land Partners, Ltd. v. Denbury Green Pipeline-Texas L.L.C.*, 363 S. W. 3d 192 (Tex. 2012) and *Denbury Green Pipeline-Texas L.L.C. v. Texas Rice Land Partners, Ltd.*, 510 S. W. 3d 909 (Tex. 2017). The Supreme Court of Texas found that "a person's common-carrier status . . . hinges on the anticipated pipeline's serving the public, a result mandated not only by the statute's language but also by the Texas Constitution's prohibition against the taking of private property for private use." *Miles v. Tex. Cent. R.R. & Infrastructure, Inc.*, 647 S.W.3d 613, 626 (Tex. 2022) (citation omitted).

<sup>95</sup> Pipeline Eminent Domain & Condemnation, RRC of Tex., <https://www.rrc.texas.gov/about-us/faqs/pipeline-safety-faq/pipeline-eminant-domain-and-condemnation/> (see tab "What is the role of the Railroad Commission in regard to pipelines in Texas?") (last visited July 21, 2024). "[A] reasonable probability must exist that the pipeline will at some point after construction serve the public" and "to qualify as a common carrier." *Tex. Rice Land Partners, Ltd.*, 363 S.W.3d at 202. "[M]ere assertions of the possibility of public use" are insufficient. *Denbury Green Pipeline-Tex. L.L.C. v. Tex. Rice Land Partners, Ltd.*, 510 S.W.3d 909, 914-15 (Tex. 2017).

<sup>96</sup> 363 S.W.3d at 197 (citation omitted).

<sup>97</sup> Tex. Nat. Res. Code Ann. § 111.014.

<sup>98</sup> Tex. Codes Ann. §§ 111.015-.017; *Westlake Ethylene Pipeline Corp. v. R.R. Comm'n of Tex.*, 506 S.W.3d 676, 687 (Tex. Ct. App. 2016).

<sup>99</sup> See R.R. Comm'n, Energy News at 3, (May 2024), <https://www.rrc.texas.gov/media/dxnjdkiq/energy-news-may-2024.pdf>.



In addition to promulgating new regulations, the Council may also propose that the RRC amend its existing rules. For example, the RRC could amend its existing natural gas regulations to also apply to pipelines transporting hydrogen. This could include requiring pipelines to file rates with the RRC.<sup>100</sup> They may also require hydrogen pipelines to transport pipeline products on a non-discriminatory basis.<sup>101</sup>

### 3. Potential Path to a More Robust RRC Regulation of Hydrogen

If industry members are unsatisfied with Texas's regulation of hydrogen pipeline rates, they may turn to the Texas legislature which could direct the RRC to adopt regulations. However, the Texas legislature operates under the biennial system, convening its regular sessions on the second Tuesday in January of odd-numbered years.<sup>102</sup> The next session is coming up in 2025, meaning we could see the promulgation of hydrogen pipeline regulations as soon as 2025.

### D. Intrastate or Interstate?

In an evolving energy landscape, it is imperative for prospective stakeholders in Texas to stay informed about the progression of both federal and state-level regulatory frameworks governing the transportation of hydrogen via pipeline. Not only is awareness of these developments crucial, but discerning which jurisdictional regime—federal or state—might offer superior advantages is equally vital to optimizing their strategic planning and decision-making.

In broad terms, the categorization of hydrogen transportation through pipelines as either interstate or intrastate likely hinges on whether a shipper intends to transport hydrogen beyond state boundaries. For example, under the ICA, the Supreme Court has held that whether transportation is interstate or intrastate depends upon the “essential character of the movement.”<sup>103</sup> In determining the “essential character” of a movement, the most important factor is the “fixed and persisting transportation intent of the shipper at the

time of the shipment” regarding the ultimate destination of the product.<sup>104</sup> Thus, even though a pipeline is physically located entirely within a single state, it is not necessarily an intrastate pipeline. If the pipeline provides a link in a continuous interstate chain of movements, it provides interstate transportation subject to the ICA.<sup>105</sup> If stakeholders prefer ICA regulation over state regulation, a pipeline could demonstrate a continuous link in interstate movements and, potentially leverage the benefits of federal regulation.

A similar opportunity exists for pipelines under the ICA regulatory regime that wish to leverage the benefits of state regulation. FERC presumes that all interstate movements are jurisdictional, but will consider whether the facts show a “sufficient break in the continuity of interstate transportation” such that shippers do not have a fixed intent to move product interstate.<sup>106</sup> For example, refining crude oil into petroleum products constitutes a sufficient break in interstate transportation. A break in transportation may also occur at a terminal or storage hub if: “(1) [a]t the time of shipment there is no specific order being filled for a quantity of a given product to be moved through to a specific destination beyond the terminal storage, (2) the terminal storage is a distribution point or local marketing facility from which specific amounts of the product are sold or allocated, and (3) transportation in the furtherance of this distribution within the single state is specifically arranged only after sale or allocation from storage.”<sup>107</sup>

Interestingly, if hydrogen falls under FERC's ICA jurisdiction, even if a pipeline makes some intrastate movements, that does not make all of its movements intrastate. ICA regulated pipelines may make both interstate and intrastate movements in the same pipe, with the movements subject to the jurisdiction of FERC and the state regulatory agency, respectively, further emphasizing the importance of staying informed about the progression of both federal and state-level regulatory frameworks.<sup>108</sup>

<sup>100</sup> 16 Tex. Admin. Code § 7.315.

<sup>101</sup> 16 Tex. Admin. Code § 7.7001(a). Discrimination prohibited by the Common Purchaser Act, Texas Natural Resources Code § 111.081, *et seq.*; the Texas Utilities Code, Titles 3 and 4. *Id.*

<sup>102</sup> *Frequently Asked Questions*, Tex. House of Representatives, <https://www.house.texas.gov/resources/frequently-asked-questions/> (last visited June 8, 2024).

<sup>103</sup> *Balt. & Ohio Sw. R.R. v. W.H. Settle & Co.*, 260 U.S. 166, 170 (1922); see also *Atl. Coast Line R.R. Co. v. Standard Oil Co.*, 275 U.S. 257, 268 (1927).

<sup>104</sup> See, e.g., *Re Northville Dock Pipe Line Corp.*, Opinion No. 111, 14 FERC ¶ 61,111, at 61,207 (1981).

<sup>105</sup> See, e.g., *Mid-Am. Pipeline Co.*, 116 FERC ¶ 61,040, at P 25 (2006) (citation omitted); *Hydrocarbon Trading & Transp. Co. v. Tex. E. Trans. Corp.*, 26 FERC ¶ 61,201, at 61,470 (1984); see also *Texaco Refin. & Mktg., Inc. v. SFP, L.P.*, 80 FERC ¶ 61,200, at 61,802 (1997) (pipeline located entirely within California but connected to other pipelines that transport product to other states subject to ICA); *Guttman Energy, Inc. v. Buckeye Pipe Line Co.*, 147 FERC ¶ 61,088, at PP 17, 25 (2014) (pipeline located entirely within Pennsylvania subject to ICA where pipeline received product from another pipeline transporting product from Delaware into Pennsylvania), *subsequent history omitted*.

<sup>106</sup> See, e.g., *Texaco Refin. & Mktg., Inc.*, 80 FERC at 61,805; *Guttman Energy, Inc. v. Buckeye Pipe Line Co.*, Opinion No. 558, 161 FERC ¶ 61,180, at PP 12, 22-23 (2017), *subsequent history omitted*.

<sup>107</sup> See, e.g., *Aircraft Serv. Int'l Grp., Inc. v. Cent. Fla. Pipeline LLC*, Opinion No. 567, 169 FERC ¶ 61,119, at P 110 (2019) (citation omitted), *aff'd sub nom. Aircraft Serv. Int'l, Inc. v. FERC*, 985 F.3d 1013 (D.C. Cir. 2021).

<sup>108</sup> See, e.g., *Amoco Pipeline Co.*, 62 FERC ¶ 61,119, at 61,803 (1993).

# III. Regulation of Siting

As with interstate hydrogen rates, who has authority over the siting of interstate hydrogen pipelines has not been determined. Thus, the key question for determining whether hydrogen pipelines can seek federal siting approval and obtain eminent domain authority turns on which statutory regime they fall under. As discussed above, there are currently three likely options: the NGA, the ICA, or the ICCTA. We sketch out how siting would work under each option below.

## A. Federal Regulation of Hydrogen Pipelines Under Existing Statutes

### 1. FERC Siting Authority Under the NGA

Many industry members are supportive of a hydrogen regulatory scheme akin to FERC's regulation of the natural gas act under the NGA because the NGA confers the most sweeping siting authority on FERC of all the administered statutes. Under the NGA, FERC can issue a federal CPCN to a natural gas pipeline.<sup>109</sup> This allows the pipeline to avoid the need for state siting approvals and exercise of state eminent domain.<sup>110</sup> To receive a CPCN, an applicant must demonstrate that it:

[I]s able and willing properly to do the acts and to perform the service proposed and to conform to [the NGA and related law] and the requirements, rules, and regulations of the Commission thereunder, and that the proposed service, sale, operation, construction, extension, or acquisition, to the extent authorized by the certificate, is or will be required by the present or future public convenience and necessity.<sup>111</sup>

Accordingly, if hydrogen is "natural gas" under the NGA, then interstate hydrogen pipelines would be able to apply for, and receive, NGA CPCNs to avoid the requirements of state siting permits and eminent domain.

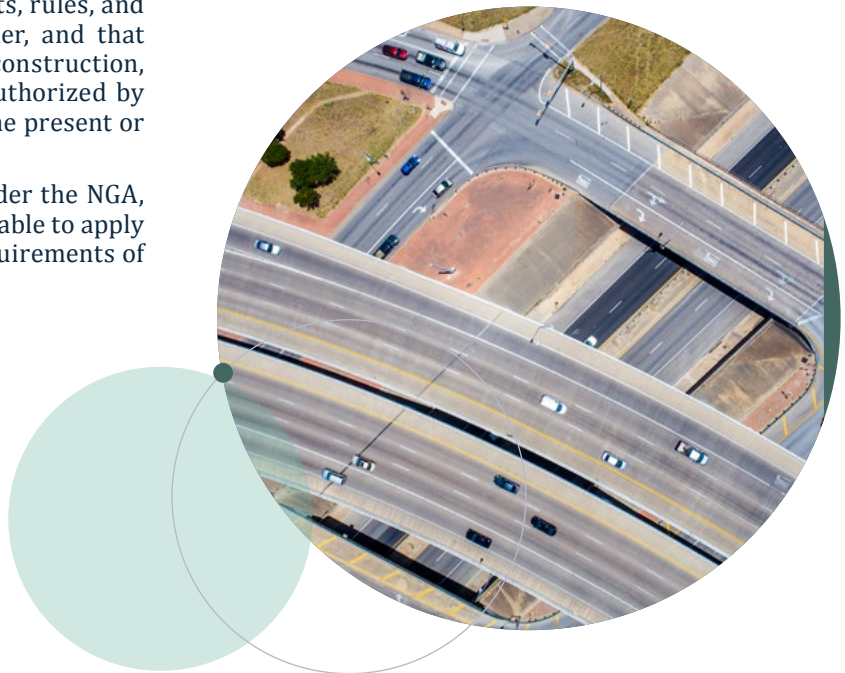
### 2. FERC Siting Authority Under the ICA

Some industry members are averse to a regulatory scheme akin to FERC's regulation of oil under the ICA because the ICA does not confer upon FERC siting authority for oil pipelines. If interstate hydrogen pipelines are treated as "oil" pipelines, states will regulate siting. Unlike natural gas pipelines, there is no FERC CPCN-like approval process required to construct an oil pipeline.<sup>112</sup>

### 3. STB Siting Authority Under the ICCTA

Industry members are similarly wary of STB regulation of hydrogen because the STB also lacks siting authority under the ICCTA.<sup>113</sup> There similarly is no CPCN-like approval process.<sup>114</sup> Thus, if hydrogen is a "commodity *other than* . . . gas, or oil,"<sup>115</sup> states will regulate siting and eminent domain.

While federal siting authority and eminent authority currently depend on classifying hydrogen as "natural gas," Congress could of course place hydrogen pipelines under one of these existing regulatory regimes. Congress could also choose to expressly dictate that FERC, the STB, or another agency can federally site hydrogen pipelines. It is likewise within Congress's purview to confer eminent domain authority over hydrogen pipelines to an agency such as FERC or the STB.



<sup>109</sup> 15 U.S.C. § 717f(c), (e) & (h).

<sup>110</sup> *Id.*

<sup>111</sup> *Id.* § 717f(e).

<sup>112</sup> Bolgiano, *supra* note 7, at 61.

<sup>113</sup> Diamond, *supra* note 7, at 9.

<sup>114</sup> *Id.*

<sup>115</sup> 49 U.S.C. § 1530(a).

## B. RRC Siting Authority

State siting and permitting is often fraught with delays caused by local opposition, but Texas is unique in that pipelines are not required under Texas law to be permitted before being built.<sup>116</sup> There is no statutory or regulatory requirement that a pipeline operator seek or receive from the RRC or any other Texas agency either a determination that there is a need for the pipeline capacity or prior approval to construct a pipeline and related facilities.<sup>117</sup> In fact, the RRC has absolutely no authority to regulate the construction or siting of intrastate pipelines.<sup>118</sup> While the legislature did clarify that the RRC has authority to regulate hydrogen pipelines, it did not expand the RRC's authority beyond hydrogen pipeline safety and rates.<sup>119</sup>

In addition, pipelines that qualify as common carrier pipelines are authorized to exercise eminent domain authority.<sup>120</sup> The RRC does not oversee this eminent domain authority.<sup>121</sup> Eminent domain authority is a private property rights issue.<sup>122</sup> Complainants bring challenges to a pipeline's right to exercise eminent domain before Texas state courts.

Although there are no siting requirements, a pipeline operator or construction company is required to notify the RRC's Pipeline Safety Department before beginning construction on a pipeline when the construction involves an intrastate pipeline longer than one mile.<sup>123</sup> The RRC further requires that the operator file a pre-construction report between 30 and 60 days prior to beginning construction.<sup>124</sup> Some operators report construction plans much earlier than 30 days prior to initiating construction activities.



Before a pipeline may be placed into service, a pipeline operator, whether or not is a common carrier,<sup>125</sup> must apply for a T-4 Pipeline Permit from the RRC.<sup>126</sup> A T-4 Permit is a permit to operate a pipeline in Texas.<sup>127</sup> "A T-4 Permit is essentially a registration process to provide the [RRC] with information about a pipeline, such as the material it is carrying and whether the pipeline is jurisdictional to the RRC."<sup>128</sup> The RRC does not hold any kind of hearing process before issuing a T-4 Permit.<sup>129</sup>

<sup>116</sup> The RRC does regulate siting in instances where the pipeline contains hydrogen sulfide. *Pipeline Eminent Domain & Condemnation*, *supra* note 85 (see tab "What is the role of the Railroad Commission in regard to pipelines in Texas?").

<sup>117</sup> *Id.*

<sup>118</sup> *Id.*

<sup>119</sup> See *supra* Section C. 1.

<sup>120</sup> Tex. Nat. Res. Code Ann. § 111.019(a). In Texas, the vast majority of pipeline projects obtain right of way from private property owners through open communication, cooperation and negotiations and not through the use of formal eminent domain procedures. In fact, between 2011 and 2016, over 15,000 miles of pipeline were built in Texas with over 99% of the tracts of land acquired through voluntary negotiation.

*Landowner Handbook: Pipeline 101*, Tex. Oil & Gas Ass'n, 4 (Nov. 2021), <https://www.txoga.org/landowner-handbook-pipelines-101/> (to view click on video flipbook).

<sup>121</sup> *Pipeline Eminent Domain & Condemnation*, *supra* note 85 (see tab "What is the role of the Railroad Commission in regard to pipelines in Texas?").

<sup>122</sup> *Id.*

<sup>123</sup> 16 Tex. Admin. Code § 8.115.

<sup>124</sup> *Id.*

<sup>125</sup> Common carriers, gas utilities and private lines must have a T-4 Permit, with two exceptions. Pipelines that never leave an oil or gas production lease (production and flow lines) and distribution lines that are part of a natural gas or LP-gas distribution system are not required to have a T-4 Permit.

<sup>126</sup> Tex. Admin. Code § 3.70(a), (b) (R.R. Comm'n of Tex., Pipeline Permits Required). *Pipeline Permitting & Mapping*, R.R. Comm'n of Tex., <https://www.rrc.texas.gov/about-us/faqs/pipeline-safety-faq/pipeline-permitting-and-mapping/> (see tab "What does a T-4 Pipeline Permit consist of?").

<sup>127</sup> The Supreme Court opinion in *Texas Rice Partners, Ltd. v. Denbury Green Pipeline*, 363 S.W.3d 192, accurately described the RRC's T-4 Permit process as one of registration, not of application, and that in accepting an entity's paperwork, the RRC performs a clerical rather than judicial-type act.

<sup>128</sup> *Pipeline Eminent Domain & Condemnation*, *supra* note 85 (see tab "What is a T-4 Permit?").

<sup>129</sup> *Id.*



# IV. Environmental Regulations<sup>130</sup>

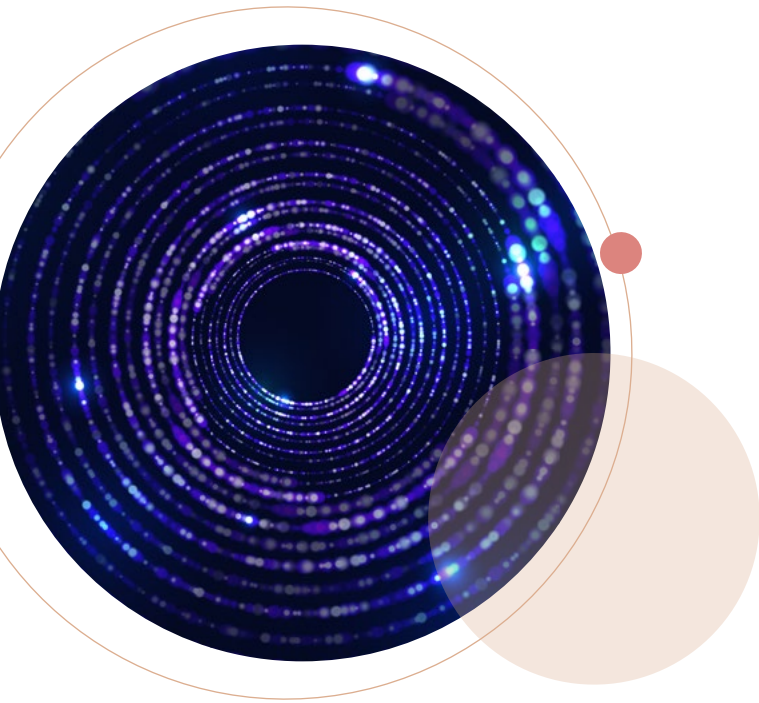
## A. Existing Federal Environmental Laws

The industry has been focused on the potential regulatory scheme for hydrogen rates and siting, but it is crucial that hydrogen pipeline developers and operators keep environmental regulations and requirements in mind. Environmental regulation is a collaborative effort across multiple agencies, and hydrogen pipeline developers and operators must align their practices in compliance with established regulations.

Interstate pipelines are subject to direct federal oversight, indirect state government regulation via federal statutes, and, in some cases, conditions outlined in their CPCN. Numerous federal statutes collectively address the environmental impact of pipeline infrastructure in the United States including but not limited to: the Endangered Species Act, administered by the U.S. Fish & Wildlife Service and the National Oceanic and Atmospheric Administration (“NOAA”);<sup>131</sup> the Coastal Zone Management Act (“CZMA”), administered by NOAA;<sup>132</sup> the Clean Water Act (“CWA”), administered by the Environmental Protection Agency (“EPA”) and the Army Corps of Engineers;<sup>133</sup> and the National Environmental Policy Act (“NEPA”), administered by the EPA.

Pipelines are subject to environmental regulations at each phase of their lifecycle; *i.e.*, planning, construction, operation, and decommissioning. For example, during the planning phase, hydrogen pipeline developers may run into environmental regulations like NEPA. Under NEPA, federal agencies must evaluate the environmental impact of all major federal actions significantly affecting the quality of the human environment. Actions such as the grant of a CPCN under the NGA are “a major federal action” significantly affecting the quality of the human environment under NEPA, requiring the completion of an environmental impact statement (“EIS”).<sup>134</sup>

During the operation, construction, and decommissioning phases, hydrogen pipeline developers/operators may be subject to environmental regulations such as Section 311(b) of the CWA. Section 311(b) of the CWA prohibits discharging “oil or hazardous substances into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or which may affect natural resources belonging to . . . the United States” in quantities that may be harmful to the environment or public health.<sup>135</sup> It is likely that hydrogen would be considered a “hazardous substance” for the purposes of this section of the CWA. In addition to the aforementioned federal environmental laws and regulations, a certificating agency may also require certain environmental conditions to be satisfied before granting pipelines a certificate. For example, under the NGA, FERC requires that natural gas pipelines seeking a certificate comply with FERC’s “Plan and Procedures,” which act as a baseline tool to avoid, minimize, and mitigate impacts of natural gas transmission projects on the environment.<sup>136</sup> Accordingly, stakeholders in hydrogen pipeline projects should anticipate compliance with a host of federal statutory and regulatory environmental requirements. As the regulatory framework of hydrogen pipelines evolves, it will be critical to develop best practices in coordination with federal and state partners.



<sup>130</sup> The regulation of emissions is a factor in the transportation of hydrogen by pipeline, but this White Paper does not directly address the regulation of emissions. See, e.g., 40 C.F.R. pt. 98 subpart P (2023) (setting forth regulation of GHG emissions from hydrogen production); 30 Tex. Admin. Code § 106.262. The EPA does not currently regulate hydrogen leaks from hydrogen pipelines as a greenhouse gas, but may do so in the future to the extent that the agency makes an “endangerment finding” under the Clean Air Act in regard to hydrogen. Local regulatory authorities may also have requirements not covered in this White Paper.

<sup>131</sup> 16 U.S.C. §§ 1531-1544.

<sup>132</sup> *Id.* §§ 1451-1465.

<sup>133</sup> 33 U.S.C. § 1251 *et seq.*; 33 U.S.C. § 403.

<sup>134</sup> 18 C.F.R. § 380.6(a)(3).

<sup>135</sup> 33 U.S.C. § 1321(b)(1).

<sup>136</sup> *Explainer on FERC’s Upland Erosion Control, Revegetation and Maintenance Plan & the Wetland & Waterbody Constr. & Mitigation Procs. Update*, FERC <https://www.ferc.gov/explainer-fercs-upland-erosion-control-revegetation-and-maintenance-plan-and-wetland-and-waterbody> (last visited July 14, 2024).

## B. Existing State Environmental Laws

Pipeline developers and operators must also remain abreast of current environmental regulations and requirements at the state level. As discussed above, regulators may impose state environmental standards indirectly via federal law requiring consistency with such state standards.<sup>137</sup> For example, federal statutes like the CZMA provide for state roles or state administration of approval authorities by establishing a national framework for states and territories to manage coastal resources. If a state or territory chooses to develop a coastal zone management program and the program is approved, the state or territory (1) becomes eligible for several federal grants and (2) can perform reviews of federal agency actions in coastal areas (known as federal consistency determination reviews).<sup>138</sup> Similarly, the CWA and regulations thereunder provide state governments with the primary responsibility over establishing, reviewing, and revising water quality standards.<sup>139</sup> States also monitor waterways to ensure that bodies of water meet such standards.<sup>140</sup>

State governments may also directly impose environmental standards on hydrogen pipeline projects. In Texas, the RRC has primary jurisdiction over hydrogen pipeline activities while the Texas Commission on Environmental Quality (“TCEQ”) oversees environmental protection and compliance. TCEQ and RRC have a Memorandum of Understanding (“MOU”), but it currently only explicitly addresses oil and natural gas pipelines, not hydrogen pipelines.<sup>141</sup> Consequently, the specific division of responsibilities among the Texas agencies as it pertains to the environmental regulation of hydrogen pipelines is yet to be determined.



As detailed in this White Paper, the RRC does not yet have specific regulations pertaining to the transportation of hydrogen by pipeline, including environmental regulations. However, the RRC is in the process of significantly revising its rules regulating oil and gas waste management and other environmental protection issues.<sup>142</sup>

TCEQ’s regulations, contained in Texas Administrative Code Title 30, Part 1, similarly do not explicitly apply to hydrogen pipelines. However, many TCEQ regulations presumably would apply to the transportation of hydrogen via a pipeline. For instance, facilities that have the potential to emit air contaminants must obtain authorization from TCEQ before starting construction.<sup>143</sup> Likewise, before construction begins, facilities that will divert, impound, take, or use surface water, with a few exceptions, will need to obtain a water rights permit.<sup>144</sup> Lastly, facilities that will conduct activities such as blasting, horizontal drilling or fracturing, etc. near a dam may need to submit an engineering study pursuant to TCEQ’s Dam Safety Program.<sup>145</sup> Therefore, as the hydrogen industry continues to grow in Texas, the RRC’s and TCEQ’s jurisdiction and responsibilities will likely be subject to further debate.

<sup>137</sup> Other than Texas, this White Paper does not examine any other states’ environmental regulations as they potentially relate to hydrogen pipelines.

<sup>138</sup> See 16 U.S.C. §§ 1456(c)(1)(C); (c)(3)(A); (c)(3)(B), and (d).

<sup>139</sup> See 40 C.F.R. pt. 131.

<sup>140</sup> *Id.* (Subpart C).

<sup>141</sup> TCEQ, <https://www.tceq.texas.gov/assistance/industry/oil-and-gas> (last visited July 21, 2024) (to view MOU scroll down to General Information and click on link to Title 16 Tex. Admin. Code § 3.30).

<sup>142</sup> RRC Proposes Major Overhaul for Water Protection & Oil & Gas Waste Mgmt. Rules, RRC (Oct. 2, 2023), <https://www.rrc.texas.gov/news/10223-rrc-proposes-major-overhaul-for-water-protection-and-oil-gas-waste-management-rules/>.

<sup>143</sup> 30 Tex. Admin. Code § 116.110.

<sup>144</sup> Tex. Water Code Ann. § 11.121.

<sup>145</sup> 30 Tex. Admin. Code § 299.16.

## C. Potential Government Actions

Although there are already environmental requirements and regulations that are applicable to hydrogen pipelines, as plans to scale hydrogen continue to advance, it is likely that hydrogen specific environmental regulations will be enacted.

### 1. DOE's Authority to Set Environmental Regulations

In particular, hydrogen hub grant recipients may be subjected to new environmental regulations and requirements at the hands of the DOE. The DOE has the authority to set environmental constraints on initiatives funded by the Hydrogen Hub grant program. While not a formal law or regulation, the DOE could impose these constraints as a condition for receiving the grant funding.

### 2. TCEQ & the RRC's Authority to Set Environmental Regulations

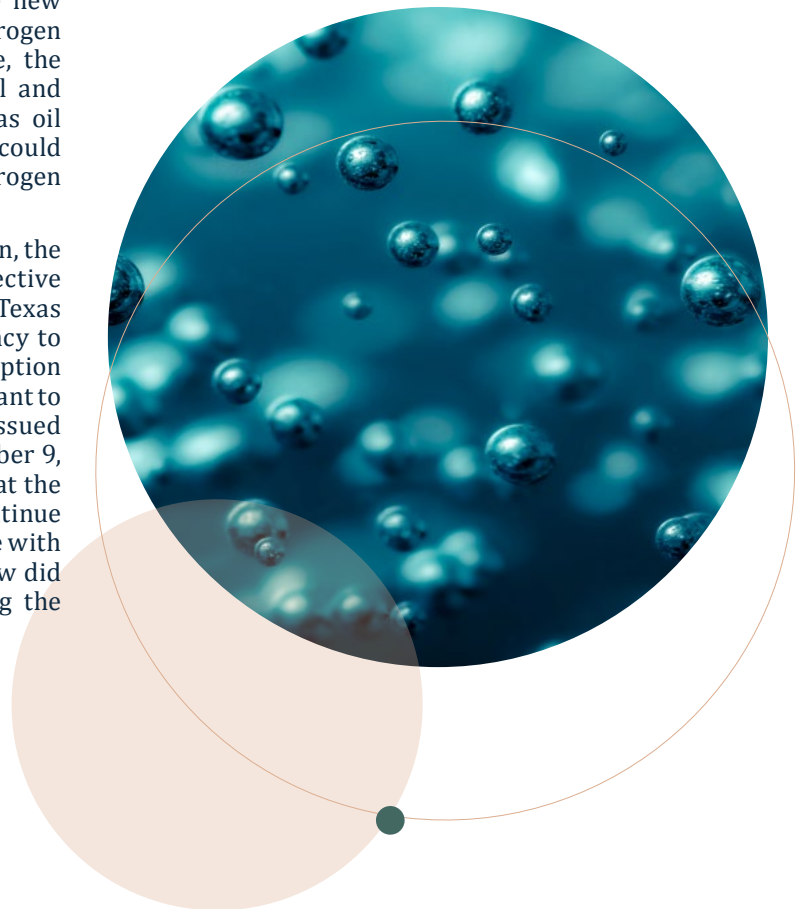
For developers and operators of pipelines that are located in Texas, the potential for new environmental regulations concerning hydrogen pipelines rests within the authority of the TCEQ and the RRC. It is within the TCEQ's authority to issue new environmental regulations encompassing hydrogen pipelines,<sup>146</sup> but the RRC may also issue new regulations that fall under its authority over hydrogen rates and safety as detailed herein. For example, the RRC may amend its regulations to extend its spill and waste regulations to hydrogen pipelines as well as oil and natural gas pipelines. These new regulations could come by way of recommendation by the Texas Hydrogen Production Policy Council.

As to the intersection of TCEQ's and RRC's jurisdiction, the agencies could update their MOU to clarify their respective jurisdiction over pipelines transporting hydrogen. Texas Government Code § 2001.039 requires a state agency to review and consider its rules for re-adoption, re-adoption with amendments, or repeal every four years. Pursuant to this rule, a notice of review, including the MOU, was issued on September 8, 2023.<sup>147</sup> Comments were due October 9, 2023.<sup>148</sup> "As a result of the review, TCEQ f[ound] that the reasons for adopting the rules in 30 TAC Chapter 7 continue to exist and readopt[ed] these sections in accordance with the requirements of TGC, § 2001.039."<sup>149</sup> The review did not, however, result in any amendments clarifying the TCEQ's jurisdiction over hydrogen pipelines.

The Texas legislature could also direct the TCEQ or, as applicable, the RRC to issue regulations over the intrastate transportation of hydrogen by pipeline. However, as noted above, the Texas legislature is not in session until 2025 (unless the Texas Governor calls a special session). Similarly, the Texas legislature could enact new legislation regarding environmental rules for hydrogen pipelines.

### 3. Congressional Authority to Mandate Environmental Regulations

Hydrogen pipeline developers and operators may also see new environmental regulations come out of Congress. Congress could explicitly designate authority over the transportation and environmental regulation of hydrogen to a federal agency. For example, the proposed Hydrogen Infrastructure Finance and Innovation Act (S. 649), as introduced on March 2, 2023, would require each of FERC, the STB, and PHMSA, in coordination with the Secretary of DOE to "assess jurisdiction over the siting, construction, safety, and regulation of hydrogen transportation infrastructure."<sup>150</sup> The bill has since been referred to the Senate Committee on Energy and Natural Resources.



<sup>146</sup> See TCEQ, Oil and Gas Activities, <https://www.tceq.texas.gov/assistance/industry/oil-and-gas> (last visited July 21, 2024) (to view MOU scroll down to General Information and click on link to Title 16 Tex. Admin. Code § 3.30).

<sup>147</sup> 48 Tex. Reg. 5073 (Sept. 8, 2023).

<sup>148</sup> "TCEQ did not receive comments on the rules review of this chapter." Charmaine K. Backens, Title 30, pt. 1, TCEQ, Env't Law Div. (Apr. 1, 2024), <https://www.sos.texas.gov/texreg/archive/April122024/Review%20of%20Agency%20Rules/Review%20of%20Agency%20Rules.html>.

<sup>149</sup> *Id.*

<sup>150</sup> Hydrogen Infrastructure Fin. & Innovation Act, S. 649, 118th Cong. (as introduced by S. Comm. and referred to S. Comm on Energy & Nat. Res., Mar. 2, 2023), <https://www.congress.gov/bill/118th-congress/senate-bill/649/text>



# V. Regulation of Hydrogen Pipeline Safety and Security<sup>151</sup>

## A. The DOT Possesses the Primary Authority to Regulate the Safety of Interstate and Intrastate Hydrogen Pipelines<sup>152</sup>

Although the future of hydrogen regulation is in many aspects uncertain, the regulation of hydrogen pipeline safety is not. The DOT has developed and enforced regulations for the safe, reliable, and environmentally sound operation of interstate and intrastate hydrogen pipelines since 1970. This authority stems from the Natural Gas Pipeline Safety Act of 1968 (Pub. L. No. 90-481) and the Hazardous Liquid Pipeline Act of 1979 (Pub. L. No. 96-129). Since its creation in 2004, the DOT has asserted its regulatory authority through PHMSA.<sup>153</sup> Today, PHMSA regulates over 700 miles of hydrogen pipeline.<sup>154</sup>

49 C.F.R. Part 192 (2023) sets forth PHMSA's minimum safety requirements for flammable gas (e.g., hydrogen).<sup>155</sup> These regulations cover pipeline design, construction, operations, maintenance, and spill response planning.<sup>156</sup> PHMSA's regulation of hydrogen and natural gas are quite similar, but there are some differences. For example, with

respect to hydrogen, "[m]aterials for pipe and components must be: [c]hemically compatible with any gas that they transport and with any other material in the pipeline with which they are in contact[.]"<sup>157</sup> Additionally, unlike with natural gas, regulations do not require hydrogen gas used as feedstock for a manufacturing process to be odorized as with natural gas in certain locations.<sup>158</sup>

PHMSA clarifies its regulatory expectations through means such as: (1) protocols and regulatory orders; (2) guidance manuals;<sup>159</sup> (3) advisory bulletins;<sup>160</sup> and (4) public meetings and workshops.<sup>161</sup> PHMSA, through its Pipeline Safety Enforcement Program monitors and enforces compliance with its minimum safety requirements. PHMSA ensures compliance with its regulations through the use of: (1) programmatic inspections of management systems, procedures, and processes;<sup>162</sup> (2) physical inspections of facilities and construction projects;<sup>163</sup> (3) investigations of safety incidents;<sup>164</sup> and (4) enforcement and administrative actions,<sup>165</sup> including corrective action orders and civil penalties.<sup>166</sup>

<sup>151</sup> This White Paper does not discuss hydrogen pipeline workplace safety. The Occupational Safety and Health Administration ("OSHA") regulates gaseous and liquefied hydrogen systems on consumer premises under its "Regulations relating to Labor." See 29 C.F.R. 1910.103 (2023).

<sup>152</sup> Nat. Gas Pipeline Safety Act of 1968, Pub. L. No. 90-481, 82 Stat. 720 and the Hazardous Liquid Pipeline Act of 1979, Pub. L. No. 96-129, 93 Stat. 989.

<sup>153</sup> Norman Y. Mineta, Rsch. & Special Programs Improvement Act of 2004, Pub. L. No. 108-426, 118 Stat. 2423 (codified as amended at 49 U.S.C. § 108).

<sup>154</sup> Hydrogen, DOT, <https://primis.phmsa.dot.gov/comm/hydrogen.htm#:~:text=Approximately%20700%20miles%20of%20hydrogen%20pipelines%20are%20currently,mainly%20on%20addressing%20hydrogen%20effects%20on%20steel%20pipelines> (last visited June 8, 2024).

<sup>155</sup> Title 49, Parts 190-199 of the Code of Federal Regulations. There are limited differences between PHMSA's regulation of Hydrogen and Natural Gas pipeline transportation. Mary McDaniel, PHMSA Hydrogen Pipeline Safety Reguls., PHMSA, Office of Pipeline Safety (June 7, 2023), [https://www.hydrogen.energy.gov/docs/hydrogenprogramlibraries/pdfs/review23/ia004d\\_mcdaniel\\_2023\\_o-pdf.pdf](https://www.hydrogen.energy.gov/docs/hydrogenprogramlibraries/pdfs/review23/ia004d_mcdaniel_2023_o-pdf.pdf)

<sup>156</sup> 49 C.F.R. pt. 192, Transp. of Nat. & Other Gas by Pipeline: Minimum Fed. Safety Standards.

<sup>157</sup> 49 C.F.R. § 192.53.

<sup>158</sup> 49 C.F.R. § 192.625(b).

<sup>159</sup> Pipeline Enforcement Guidance, DOT, <https://www.phmsa.dot.gov/pipeline/enforcement/enforcement-program-0> (last visited July 14, 2024) ("Enforcement Guidance documents are available to clarify PHMSA's enforcement authority by identifying and summarizing precedent, including those from interpretations, advisory bulletins, final orders, and decisions on petitions for reconsideration.").

<sup>160</sup> Field Operations Overview, DOT, <https://www.phmsa.dot.gov/regulatory-compliance/pipeline/field-operations-overview> (last visited July 21, 2024).

<sup>161</sup> Id.; Meeting Notice, 86 Fed. Reg. 58389-01 (Oct. 21, 2021), <https://www.phmsa.dot.gov/regulations/federal-register-documents/2021-22913> (notice of public meeting regarding Pipeline Safety: Pipeline Transp.; Hydrogen & Emerging Fuels Rsch. & Dev. (R&D) Pub. Meeting & Forum).

<sup>162</sup> PHMSA Enforcement, DOT, <https://www.phmsa.dot.gov/regulatory-compliance/phmsa-enforcement> (last visited July 14, 2024).

<sup>163</sup> Id.

<sup>164</sup> Id.

<sup>165</sup> Id.

<sup>166</sup> Civ. Penalty Summ., DOT (Jan. 19, 2024), <https://www.phmsa.dot.gov/regulatory-compliance/pipeline/enforcement/civil-penalty-summary>.

In January, PHMSA actively engaged in a workshop orchestrated by DOE that focused on formulating strategies for hydrogen infrastructure deployment in high-impact sectors.<sup>167</sup> At this workshop, PHMSA not only addressed hydrogen pipeline safety and associated challenges, but also affirmed its commitment to updating industry standards and its own regulations related to hydrogen.<sup>168</sup> This approach is in line with PHMSA's considerable dedication towards research and development in the realm of hydrogen.<sup>169</sup> For example, in fiscal year 2023, PHMSA awarded approximately \$4 million in research investments on hydrogen projects. PHMSA currently has twelve active hydrogen projects associated with fiscal years' 2021, 2022, and 2023 awards, totaling approximately \$11 million in research investments.<sup>170</sup> These projects are investigating how to safely transport and store hydrogen and hydrogen blends by repurposing existing infrastructure used for natural gas transport and underground storage, improve hydrogen leak detection, and characterize hydrogen-specific pipeline integrity threats.<sup>171</sup>

PHMSA's commitment to updating industry standards and its own regulations related to hydrogen comes on the heels of the Protecting Our Infrastructure of Pipelines and Enhancing Safety Act of 2020 ("PIPES Act") which mandated in part that PHMSA establish performance standards for leak detection and repair programs for certain regulated gas gathering, transmission, and distribution operators.<sup>172</sup> The PIPES Act further requires all pipelines with maintenance and inspection procedures

to update pertinent manuals to address the elimination of hazardous leaks and minimize release of natural gas.<sup>173</sup> Updated regulations, especially those concerning hydrogen leakage are even more important as the industry explores potential pathways to scaling hydrogen production.

Moreover, PHMSA has been collaborating with various entities, including the DOT, Research and Innovation Technology Administration, the DOE, U.S. Department of Commerce and the National Institute of Standards & Technology to develop a comprehensive National Hydrogen Energy Roadmap.<sup>174</sup> In addition, PHMSA routinely organizes Pipeline Safety R&D Forums and designs these events to generate a national research agenda that pinpoints technical challenges and promotes solutions to enhance pipeline safety and environmental protection.<sup>175</sup> The most recent forum was comprised of five working groups, one of which specifically focused on hydrogen and leak detection/monitoring. PHMSA reviews the research gaps identified during these forums to guide the solicitation of future R&D projects.<sup>176</sup> The initiatives sponsored by PHMSA could potentially stimulate revisions to the current regulations governing hydrogen pipelines.



<sup>167</sup> *Hydrogen Infrastructure Strategies to Enable Deployment in High-Impact Sectors Workshop*, DOE, Hydrogen & Fuel Cell Techs. Off. (Jan. 2024), <https://www.energy.gov/eere/fuelcells/hydrogen-infrastructure-strategies-enable-deployment-high-impact-sectors-workshop>.

<sup>168</sup> *Id.* (stating there will be a "[r]evision of industry standards and PHMSA regulations regarding hydrogen") (see Jan. 18, 2004 presentation by Vincent Holohan).

<sup>169</sup> *Fueling America's Economy: Legislation to Improve Safety and Expand U.S. Pipeline Infrastructure: Hearing on the Pipeline Safety, Modernization, and Expansion Act of 2023 Before the Subcomm. On Energy, Climate, & Grid Sec., 118th Cong.* (2024) (statement of Tristian Brown, Deputy Adm'r of PHMSA).

<sup>170</sup> *Id.*

<sup>171</sup> *Id.*

<sup>172</sup> Consolidated Appropriations Act, 2021, Pub. L. 116-260, Div. R, 134 Stat. 1182 at 2210.

<sup>173</sup> 49 U.S.C. § 60102.

<sup>174</sup> DOT, *supra* note 146.

<sup>175</sup> PHMSA most recently held a Pipeline Safety R&D Forum on October 31 and November 1, 2023.

<sup>176</sup> DOT, *Fueling America's Economy: Legislation to Improve Safety and Expand U.S. Pipeline Infrastructure* (Jan. 18, 2024), <https://www.transportation.gov/fueling-americas-economy-legislation-improve-safety-and-expand-us-pipeline-infrastructure>.

## B. PHMSA Has Delegated Its Regulatory Authority Over the Safety of Intrastate Hydrogen Pipelines to the RRC

Although PHMSA has authority to regulate the safety of both interstate and intrastate hydrogen pipelines, PHMSA's enabling legislation does allow the agency to delegate authority over intrastate pipeline safety program administration, inspection, and enforcement to state regulators. PHMSA's enabling legislation also allows state offices to act as "agents" (excluding enforcement) for those sections of interstate pipelines within their boundaries.<sup>177</sup> "States must adopt the minimum federal pipeline safety regulations; however, states may pass more stringent regulations for pipeline and underground natural gas storage safety through their legislatures."<sup>178</sup>

With respect to Texas, PHMSA has delegated its regulatory authority to the RRC.<sup>179</sup> In fact, the RRC's current oversight largely focuses on safety and operations. Specifically, the RRC is responsible for inspecting and enforcing pipeline safety laws for intrastate gas and hazardous liquid pipeline operators in Texas. The RRC has adopted PHMSA's minimum federal pipeline safety regulations. To alleviate any doubt about the RRC's authority over hydrogen pipelines, House Bill 2847, passed by the 88th Legislature, clarified the RRC's regulatory jurisdiction over hydrogen pipelines. This change reinforces RRC's existing authority over hydrogen pipelines specified in Chapter 111, Natural Resources Code.<sup>180</sup>

Texas Administrative Code, Title 16, Chapter 8. Section 8.1(b)(1) sets forth RRC's pipeline safety laws and states that "[n]atural gas pipelines . . . shall be designed, constructed, maintained, and operated in accordance with" various federal standards.<sup>181</sup> The RRC also has Underground Pipeline Damage Prevention Rules, which were issued on September 1, 2007.<sup>182</sup> These rules are in

accordance with Texas Utilities Code, Chapter 251, and apply to anyone who is or will be moving earth near an underground pipeline containing flammable, toxic, or corrosive gas, a hazardous liquid or carbon dioxide.

## C. Transportation Security Administration Possesses the Primary Authority to Regulate the Security of Hydrogen Pipelines

Regulation of hydrogen pipeline security is likewise not uncertain. The TSA, under the Aviation and Transportation Security Act, has authority over the security of transportation systems within, and connecting to the United States.<sup>183</sup> This authority includes pipelines.<sup>184</sup> But while the TSA holds jurisdiction over matters of national security related to hydrogen pipelines, it remains uncertain whether the agency's existing guidelines and security directives are applicable to these pipelines. This ambiguity may require further clarification to ensure appropriate security measures for the transportation of hydrogen.

The TSA Office of Security Policy and Industry Engagement's Surface Division is responsible for issuing guidance, security directives and other material concerning pipeline security.<sup>185</sup> These materials are generally represented to be "applicable to operational natural gas and hazardous liquid transmission pipeline systems, natural gas distribution pipeline systems, and liquefied natural gas facility operators."<sup>186</sup> As previously detailed, the precise classification of hydrogen is currently a subject of discussion. If lawmakers ultimately decided to categorize hydrogen as a natural gas, for instance, then the existing guidance and security directives established by the TSA would immediately apply to hydrogen pipelines.

177 49 U.S.C. §§ 60105- 60106.

178 *State Programs Overview*, DOT, <https://www.phmsa.dot.gov/working-phmsa/state-programs/state-programs-overview> (last visited July 14, 2024).

179 App. F to 49 C.F.R. pt. 192. Appendix F notes that the state of Texas is certified to participate in the Federal/State Cooperative Gas and Hazardous Liquid Pipeline Safety Programs. Further, Appendix F notes that the RRC is certified to participate in the Federal/State Underground Natural Gas Safety Program. App. F – *State Program Certification/Agreement Status*, DOT, <https://www.phmsa.dot.gov/about-phmsa/working-phmsa/state-programs/appendix-f-state-program-certification-agreement-status> (June 27, 2024) (to view click on Year: 2024 to view PDF documents).

180 Took effect September 1, 2023.

181 16 Tex. Admin. Code § 8.1(b). This subsection of the Texas Administrative Code incorporates by reference 49 C.F.R. Part 192, which includes the federal standards by which PHMSA regulates hydrogen pipelines, <https://primis.phmsa.dot.gov/comm/hydrogen.htm> (last visited July 14, 2024). While section 8.1(b)(1) specifically refers to natural gas pipelines, this section should also apply to hydrogen pipelines by nature of incorporating the federal standards that apply to hydrogen pipelines.

182 16 Tex. Admin. Code §§ 18.1 - 18.12. See also Tex. Statutes Title 5, ch. 251, Provisions Affecting the Operation of Utility Facilities.

183 Aviation & Transp. Sec. Act, Pub. L. No. 107-71, 115 Stat. 597 (2001) (as codified in 49 U.S.C. § 114 *et seq.*) ("ATSA").

184 49 U.S.C. § 114.

185 *Id.*; Bill Hawk & Chelsea Hill, *TSA Pipeline Sec. Guidelines Navigating Change to Protect Critical Assets*, TRC (May 27, 2022), <https://www.trccompanies.com/insights/tsa-pipeline-security-guidelines-navigating-change-to-protect-critical-assets/>.

186 *Pipeline Sec. Guidelines*, TSA at 1-2 (Mar. 2018), <https://www.tsa.gov/sites/default/files/tsapipelineguidelines-2011.pdf>; *Security Directive Pipelines-2021-01D*, TSA, at 2 n.4, (May 29, 2024), <https://www.tsa.gov/sites/default/files/sd-pipeline-2021-01d.pdf> (citing section 1557(b) of the *Implementing Recommendations of the 9/11 Commission Act of 2007*, Pub. L. No. 110-53 (121 Stat. 266; Aug. 3, 2007) (9/11 Act) (codified at 6 U.S.C. § 1207). Section 1557(b) requires TSA to review pipeline security plans and inspect critical facilities of the 100 most critical pipeline operators. In general, criticality is determined based on factors such as the volume of product transported, service to other critical sectors, etc.).



The TSA guidelines do not impose requirements on any person or company, they only recommend action.<sup>187</sup> “Earlier versions [of the guidelines] required the development of processes and cybersecurity implementation plans. Th[e latest] version requires that operators test and evaluate those plans.”<sup>188</sup> The security directives do, however, impose certain actions on operators.<sup>189</sup> The TSA continues to remain active in the space of pipeline security regulation, but has so far been silent on whether its current materials extend to hydrogen pipelines, or if it will develop security materials for hydrogen pipelines.

## D. Texas Possesses No Authority to Regulate the Security of Hydrogen Pipelines

Unlike PHMSA, the TSA has not delegated its authority over the security of hydrogen transportation systems within, and connecting to the United States to the state of Texas.<sup>190</sup> As such, neither the RRC, nor any other Texas agency has authority to regulate the security of hydrogen pipelines. But, nonetheless, the TSA’s efforts to protect national pipeline security are on the minds of the RRC. For instance, in 2022, the RRC issued a Notice to Pipeline Owner and Operators: Cybersecurity Best Practices for Critical Pipeline Infrastructure to remind stakeholders to review and enforce the security directives applicable to TSA regulated pipeline owners and operators.<sup>191</sup>

## E. Potential Government Actions

### 1. PHMSA’s Authority to Set More Robust Safety Regulations

There is concern that PHMSA’s existing regulations may not be sufficient to address the safety risks of a hydrogen pipeline network.<sup>192</sup> Although PHMSA has regulated hydrogen pipelines since 1970, PHMSA’s existing pipeline regulations primarily focus on natural gas pipelines. As it stands, almost all existing hydrogen pipelines in the United States serve industrial customers operating at constant, relatively low pressure.<sup>193</sup> But, as detailed above, PHMSA has acknowledged the need for updating and improving the industry standards and its own regulations pertaining to hydrogen. In addition, PHMSA has shown a strong commitment towards the enhancement of hydrogen-related safety measures, as demonstrated by its significant investment in research and development in this field.

### 2. TSA’s Authority to Set More Robust Security Requirements

There are several potential routes to clarification regarding the applicability of existing TSA regulations to hydrogen pipelines. For instance, the TSA could affirm that its current pipeline regulations already encompass hydrogen pipelines. Alternatively, the TSA could modify its existing guidelines to explicitly include hydrogen pipelines or issue new, hydrogen-specific guidelines.

### 3. The RRC May Set More Robust Safety Standards

The RRC will be responsible for incorporating any new standards set by PHMSA. Furthermore, the Texas Hydrogen Production Policy Council may recommend adopting even more rigorous standards. This means that any newly established PHMSA regulations could potentially serve as a baseline, with the council pushing for additional, stricter measures.

Additionally, the Texas legislature holds the authority to instruct the RRC to implement stricter regulations concerning the intrastate transportation of hydrogen via pipelines. However, the next regular session of the Texas legislature is not slated until 2025. But, this timeline could potentially accelerate if the Governor of Texas decides to convene a special session, thereby enabling the legislature to address this issue sooner.

### 4. Congressional Authority to Mandate Safety and Security Regulations

If Congress is not satisfied with the safety and security regulations set by PHMSA and the TSA respectively, it is within Congress’ authority to compel PHMSA and/or the TSA to establish additional regulations governing hydrogen pipelines. However, based on indications from PHMSA, such intervention may not be necessary with respect to safety regulations. Nonetheless, if Congress seeks a faster implementation timeline or a specific regulatory framework, it might still opt to take action.

<sup>187</sup> *Id.* at 1. The latest version of the Guidelines and security directives are available on the TSA’s website. Surface Transp. Cybersecurity Toolkit, TSA, <https://www.tsa.gov/for-industry/surface-transportation-cybersecurity-toolkit> (last visited June 9, 2024).

<sup>188</sup> Press Release, TSA Updates, Renews Cybersecurity Requirements for Pipeline Owners, Operators, (July 26, 2023), <https://www.tsa.gov/news/press/releases/2023/07/26/tsa-updates-renews-cybersecurity-requirements-pipeline-owners>.

<sup>189</sup> See, e.g., TSA, *supra* note 179, at 2-5.

<sup>190</sup> ATSA, Pub. L.No. 107-71, 115 Stat 597.

<sup>191</sup> Texas Railroad Commission; Notice to Pipeline Owner and Operators: Cybersecurity Best Practices for Critical Pipeline Infrastructure, <https://rrc.texas.gov/announcements/04012022-nto-pipeline-cybersecurity-best-practices/> (Apr. 1, 2022).

<sup>192</sup> See CRS report at 25 (citing Damien Lyster et al., *Fed. Hydrogen Regul. in the United States: Where We Are & Where We Might Be Going*, Vinson & Elkins LLP (Dec. 10, 2020)), <https://www.jdsupra.com/legalnews/federal-hydrogen-regulation-in-the-54947/>; James Bowe & William Rice (Jan. 13, 2021), [https://www.kslaw.com/attachments/000/008/505/original/1-13-21\\_Law360.pdf?1611166001](https://www.kslaw.com/attachments/000/008/505/original/1-13-21_Law360.pdf?1611166001) (identifying pipeline steel and welding techniques as an areas of concern).

<sup>193</sup> DOT, *supra* note 146.

# VI. Conclusion

The development of hydrogen pipeline regulation remains a dynamic and evolving field. Table 2 (below) summarizes the current state of play. Key areas such as rates, siting, environmental considerations, and safety/security measures are yet to be fully determined.

Stakeholders should anticipate that existing federal and Texas laws and regulations will influence these elements. As the energy industry navigates this transition, it is paramount to consider these changes and understand their potential impact on the hydrogen industry. The future of hydrogen pipeline regulation holds significant promise and challenges alike, warranting close attention and active engagement from all stakeholders.



**Table 2: Current State of Hydrogen Regulation**

| Statute                     | Rate Authority                                                                                                                    | Statute | Siting Oversight                                                                                      | Statute                                                                     | Environmental Oversight | Statute                                                                               | Safety                                                                                                                             | Statute                                  | Security                                                                               |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------------------------------------------------------------|
| INTERSTATE                  |                                                                                                                                   |         |                                                                                                       |                                                                             |                         |                                                                                       |                                                                                                                                    |                                          |                                                                                        |
| NGA                         | FERC <u>may</u> hold the authority to regulate interstate hydrogen transportation rates under the NGA.                            | NGA     | FERC <u>may</u> hold the authority to regulate siting of interstate hydrogen pipelines under the NGA. | NEPA, CZMA, NOAA, CWA etc.                                                  | Multi-Agency Effort     | Natural Gas Pipeline Safety Act of 1968 and the Hazardous Liquid Pipeline Act of 1979 | PHMSA holds the authority to regulate the safety of interstate hydrogen transportation                                             | Aviation and Transportation Security Act | TSA holds the authority to regulate the security of interstate hydrogen transportation |
| ICA                         | FERC <u>may</u> hold the authority to regulate interstate hydrogen transportation rates under the ICA.                            | ICA     | The ICA does not confer siting authority on FERC, instead States maintain siting authority.           | NEPA, CZMA, NOAA, CWA etc.                                                  | Multi-Agency Effort     |                                                                                       |                                                                                                                                    |                                          |                                                                                        |
| ICCTA                       | STB <u>may</u> hold the authority to regulate interstate hydrogen transportation rates under the ICCTA.                           | ICCTA   | The ICCTA does not confer siting authority on the STB, instead States maintain siting authority.      | NEPA, CZMA, NOAA, CWA etc.                                                  | Multi-Agency Effort     |                                                                                       |                                                                                                                                    |                                          |                                                                                        |
| INTRASTATE                  |                                                                                                                                   |         |                                                                                                       |                                                                             |                         |                                                                                       |                                                                                                                                    |                                          |                                                                                        |
| Texas Natural Resource Code | The RRC holds the authority to regulate intrastate hydrogen transportation rates under Chapter 111 of the Natural Resources Code. | N/A     | Siting authority is a private property rights issue handled by Texas state courts.                    | Texas Natural Resource Code; Texas Water Code; Texas Health and Safety Code | RRC and TCEQ            | Natural Gas Pipeline Safety Act of 1968 and the Hazardous Liquid Pipeline Act of 1979 | PHMSA holds the authority to regulate the safety of intrastate hydrogen transportation but has delegated its authority to the RRC. | Aviation and Transportation Security Act | TSA holds the authority to regulate the security of intrastate hydrogen transportation |



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